



Challenge

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letters TO THE EDITOR

Farm policy criticized

•I want to challenge your claim that we have too many farms [CHALLENGE, June-July 1956]. Let's go back to Adam Smith and agree that the products of our mines, forests, farms, fisheries, oil wells or other natural resources are all new wealth, and that it is necessary to maintain their volume and price in order to pump new life into the economic bloodstream of the nation.

Let's agree that the average small farmer can't afford to buy the heavy equipment necessary to break soil and harvest crops, or to produce in sufficient volume to establish a brand, but he can, through co-ops, obtain such advantage.

Let's agree that the so-called "soil bank" plan is a defeatist one which not only stops the flow of new wealth that member-farms would produce if operated, but also puts a burden on the public to raise money to meet soil bank payments. Except for dry farming, constant cultivation and proper rotation do not decrease fertility, but increase it.

We can find plenty of use for all our farmland if we simply create the demand. Marginal farms, except those in dry farming areas, may simply be square pegs in round

holes—with the farmer not planting the proper crops. Bear in mind that the best fruit and tobacco grow on what is called poor land, and rice grows on hard pan land that is useless for other crops.

CARROLL DUNSCOMBE
STUART, FLA.

Request for Henry George

•I have been reading your series, *Man and the Economy*, with a good deal of interest. Having been a charter subscriber, I can truly say that of all the fine articles that have appeared in CHALLENGE, this is the most educational and basic for the understanding of economics in its relationship to daily living.

I do hope that you will have something on Henry George, an American economist whose books have sold more than three million copies, and who has had a profound effect on the thinking of many people.

SIDNEY BLITZ
BROOKLYN, N. Y.

(The theories of Henry George will be discussed in a future article.—Ed.)

Vitamin content of algae

•I read your article on chlorella [CHALLENGE, June-July 1955], and

want to find out about the vitamin content of a different kind of algae. Since green plants and vegetables that grow on land contain vitamins A and C, I wonder whether any salt-water green plant contains them, too. Specifically, does Irish sea moss, a vegetable used in some countries of Europe, contain any vitamins?

MISS M. SMITH
SOUTH PASADENA, CALIF.

(The Bio-Chemical Division of the New York Botanical Gardens advises that "it is safe to assume" that Irish sea moss does contain vitamins A and C. However, they note that to their knowledge no analysis has yet been made.—Ed.)

Improvement vs. change

•Some issues back, I read an article which started me thinking along lines at variance with the author's. He gave me the impression that industry is constantly put to it to think up "what the buying public is going to demand next year" [CHALLENGE, April 1955].

I'm a little curious about the necessity for constant change in production. Why not keep some of the things that are approved by the public instead of changing or discontinuing accepted products.

Here is an example of what I mean. I went to my local grocery store to buy my regular brand of cleansing powder. But I couldn't get the same dependable product that had served me for years. All the store had was a new, improved kind that bubbles. I didn't want bubbles before; I don't want them now. So I changed to another brand.

I feel that there have been good products for generations, well designed by people who know what they are doing. But now it seems as

if we are caught in a whirl that is reversing things. I feel that this is a very unfortunate thing.

MISS JANET K. MACFARLANE
COOPERSTOWN, N. Y.

(While we would agree that change-for-the-sake-of-change is as unwise in business as it is in other spheres, we do not go along in condemning production changes that have evidently found widespread market acceptance. Certainly, the cleanser manufacturer would not have introduced his new variety if prior market tests had not indicated that it would sell better than the old. At any rate, the only way a manufacturer can judge public acceptance of a new product is by sales figures. In an economy such as ours, where business survival depends upon volume sales, production policies must, of necessity, be conditioned by the tastes and buying habits of the majority of buyers.—Ed.)

Add pats on the back

•I very much appreciate CHALLENGE. It is a monthly refresher course for me on economics in the modern world; difficult subject matter is handled simply. Other magazines pile up but I always keep up to date on CHALLENGE.

MRS. ETTA B. BARDWELL
JACKSON HEIGHTS, N. Y.

•Please accept my congratulations for your excellent magazine, a very welcome visitor to my study. When it arrives, I feel like settling in an easy chair for a quiet time visiting with a congenial friend who likes to talk economics with me.

More power to you.

BRUCE B. JOHNSON
PASADENA, CALIF.

a personal note

from the editor

*how do we find out
what economics is all about?*

ANY TIME anyone asks "What is economics all about?", the economist is hard put to it to supply an answer which can satisfy an inquirer obviously wise enough to ask such a simple question. The trouble is, as with every other field of scientific inquiry, economics has been broken up into many parts, each segment encompassing a special area of study intended to achieve specific but limited objectives. Anyone who tries to determine the shape and purpose of economics by examining any of these specialized segments is sure to be misled.

Thus, when we deal with statistics, if we had the means to collect all the statistical information we wanted and needed, we could arrive at some useful conclusions. But, while useful, they would not tell the whole story by themselves. Other segments of the field would have to yield their conclusions as well—such as the areas devoted to prices, wages, resources, money flow and the thousand and one other forces which operate in an economic system. Each segment of the whole field is important; each offers a conclusion; each contributes to our knowledge of how the current economic world is working. Every specialist plays his important but limited role.

Yet, when we put all the results of these endeavors together, can we answer the question "what is economics all about?" What is the final purpose of all this work? What does the whole thing mean?

The noneconomist who finds himself interested in what is going on in the economic world is likely to look at statistics rather than at mere words to try to get a grasp of how things are going. Now, let us assume that this noneconomist is sophisticated enough to avoid statistical pitfalls. Let us assume that he takes into account such factors as the forty-three-million increase in population since 1930 and the difference between the purchasing power of the prewar dollar and today's dollar. Assuming this, the noneconomist finds that in 1930 the per capita disposable personal income (income after taxes) was \$890; whereas in 1955 it was \$1,462. Keep in mind that we are talking about constant

dollars. Therefore, a per capita increase of \$572 over a twenty-five-year span represents a real gain of 64 per cent. So our noneconomists can reasonably conclude that in spite of wars, inflation and the many more mouths to feed, on a per capita basis we have averaged a 64 per cent increase in the personal income we can spend on ourselves.

But this does not tell us the whole story. How many people had to work to produce such a beneficial result? Again we turn to the statistics. Between 1930 and 1955, the ratio of employed persons to total population remained fairly constant—between 37 and 40 per cent. While since 1900 the number of hours in the work week have declined at an average of four hours per decade.

Thus, we can conclude that as individuals we are working fewer hours than ever before; and we are not increasing the percentage of our population that must work to produce the needs of the nation. Still the disposable personal income was increased.

But our noneconomist inquirer is not yet satisfied. He wants to know what is happening to the income-distribution picture. There are statistics to satisfy this line of inquiry also. The statistics reveal that America has been transformed during the past generation into a vast middle-income complex. In terms of constant dollars, we find that by 1941, 47 per cent of our family earning groups made more than \$3,000 per year; by 1950, 61 per cent were over the \$3,000 mark. To be sure, the number of very rich has dwindled, as has the number of very poor, but no one seems to regret the phenomenon very much.

Now, if we should add to these statistics the fact that on a national average the percentage of disposable income spent on food and clothing is no more today than it was in 1909; on housing and utilities, 10 per cent less; on household equipment, 3 per cent more; on transportation, 6 per cent more; and on medical care and recreation, more, you begin to get a picture of fairly substantial improvements in the lot of the common man in the United States.

After all is said and done, no matter how complicated and segmented and specialized the science of economics is, the noneconomist inquirer can now offer his own profound view of what economics is all about. How to increase the per capita disposable personal income (in constant dollars) while maintaining the other salutary trends revealed in the other statistics used above is really what the many economists schooled in a variety of specialties are really after. How to get more: that's what economics is all about.—H.B.



Challenge Notes

The "pains" of prosperity: labor shortage and cost inflation

IN A SENSE, the past few months have been unique in American economic history. Even the experts have been surprised at the extent of our prosperity and, being experts, they are a little worried about our ability to keep it up. Can we, they wonder, match in skilled brainpower the complex equipment our economy is producing at an ever faster rate?

A look at some recent Department of Commerce statistics shows that they have good reason to be concerned. According to the Department, the U. S. economy has been creating new jobs at the fantastic rate of one million a year during the last ten years. But the labor force has just not kept pace. It has been increasing at a "mere" 600,000 a year. And most experts predict that the situation will get worse before it gets better. For it will take at least another ten years before the early postwar babies begin to enter the labor force.

Actually, the labor shortage is even more acute than such compre-

hensive figures indicate. The shortages, after all, are not in bodies but in special skills and knowledge. As technology (and the social and economic problems created by technology) becomes increasingly complex, the need for skilled mechanics, scientists, engineers, statisticians, accountants, economists, etc., is bound to grow at an even faster rate.

As John Diebold points out (*page 13*), education is going to be the major problem of our age of plenty if it is to remain plentiful. Our schools will have to provide the labor force of the future with the broad background which will enable it to adjust to ever-changing technological needs.

"Overfull employment"

THIS KIND of labor shortage which some economists (rather inaccurately) describe as "overfull employment," is also at the root of the mild inflation we are currently experiencing.

Of course, if we take the traditional definition of inflation as

higher prices caused by an increase in the money supply that is greater than the increase in the physical output of goods, then we must conclude that we have had no inflation during the last six years. For, while national production has increased by 27 per cent since 1950 (physical terms; in dollar value the increase has been even greater), the total money supply has increased by only 22 per cent. Yet the Labor Department's Consumer Price Index stands at an all-time high of 117 (1947-1949=100) and industrial prices for many lines are soaring. How can we explain such an increase in prices if it is not the result of more money chasing fewer goods?

Economists would answer that this is a "cost," not a "money" inflation. Business is so good, and production, investment and consumption are so high that the demand for everything from industrial raw materials to skilled labor is increasing faster than our economy can accommodate. As a result, costs (i.e. prices) have risen. But it is the relative shortage of goods and, even more important, of labor skills, which has caused prices to go up, not an excessive money supply.

Handling this kind of inflation is not easy. Unlike a money inflation where the government, through its various credit con-

trols, can raise the cost of borrowing and thus tighten the money supply, money is already tight during a cost inflation; and all government can do is to keep it that way and prevent the inflation from getting any worse. It cannot tighten money any further without hurting a good many people and possibly precipitating a serious deflation. Short of such drastic and unwelcome measures as wage and price controls, there is very little the government can do except appeal to labor and industry to exercise "self-control" when seeking wage and price increases.

Psychology and the election

BY THE TIME this issue comes out, most of us will be glad that all the political "pointing with pride and viewing with alarm" is over. Still, we cannot resist the temptation of making a few "non-political" remarks about the election. A psychologist has suggested that most of us think of President Eisenhower as a "father image" while we look upon Mr. Stevenson as a "good neighbor type." According to this view, if you vote Republican, it is because you are looking for a "real" father who will look after you, while if you vote Democratic, it is because you are in need of company. In either case, you are in bad psychological shape.—M.K.

Overhauling the

Tax System

by Eugene R. Schlesinger

Recent economic and political developments in the nation give a new orientation to the age-old problem of tax reform

THE RATHER remarkable performance of the American economy during the last ten years has created an economic and political climate in which the age-old problem of tax revision is being viewed in a new light. More than at any time in our history, discussions of tax revision are revolving about the types of change that will both sustain and accelerate the rate of economic growth. Moreover, continued economic expansion is slowly fostering a situation in which the prospects for a complete overhauling of our tax system are becoming greater than ever before. To many observers, such a thorough revision has long appeared necessary in order to make our tax system more consistent with American ideals of democracy, fairness and free enterprise.

Approximately two-thirds of the

total revenue of the federal government is now derived from income tax receipts, which tend to rise and fall more rapidly than national income and production. As a result, a surplus of government revenue would appear to be an almost inevitable accompaniment of any sustained future economic growth—a circumstance which will tend to create conditions that are conducive to fairly objective tax reform. During the past twenty-five years, for example, discussions of any individual reform measure which involved some loss of revenue usually had to take place in the politically difficult context of either a compensating increase in some other tax or a reduction in some popular item of government expenditure. Today, however, it is gradually becoming easier to consider individual reform measures solely on

their own merits or, at worst, to restrict the frame of reference to alternative forms of tax reduction. Moreover, the very fact that the American economy may soon reach a stage where tax reductions of some sort will be possible every year may enable Congress to avoid the piecemeal and inconsistent approach that has characterized much of our past tax reform. Instead, Congress will be able to plan a consistent and graduated program of tax revision which will minimize shocks to the smooth functioning of the economy in any given year.

At first glance, the revision of the tax system seems to involve a myriad of technical, economic, political and ethical considerations. However, virtually all of these can eventually be distilled into two basic and primary issues: the degree of tax differentiation that is desirable in relation to *size of income* and to *source of income*. How should the tax system treat economic units with incomes of different size, and how should it handle units with incomes of the same size which are derived from different sources? Both of these questions are of vital importance to any general revision of the tax sys-

tem. The first question is critical in determining the impact of the tax system on the growth and stability of the economy. Unfortunately, it is in precisely this area where there are the greatest differences of opinion among economists and tax experts, principally because the data necessary to give a satisfactory answer is not susceptible to exact quantitative measurement.

Arguments over the comparative treatment of incomes of different size have traditionally and popularly been phrased in terms of the apparent conflict between the American goals of equity and economic growth. On the one hand, the majority of the American people appear to believe that the so-called ability-to-pay principle of taxation, with its implication of a progressive rate structure, is the one best suited to the American system since it is most consistent with our ideals of equality of opportunity and fairness. On the other hand, it seems equally clear that the increasing marginal tax rates inherent in a progressive tax system tend to dampen the incentives to work, save, and invest and, thereby, to retard the economic growth of the country.

That a progressive tax system creates some conflict between the goals of equity and economic growth cannot be denied. However, the importance of this con-

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flict to the country depends both on the degree of progressiveness involved and on the extent to which this degree of progressiveness actually dampens incentives. The most objective and comprehensive analysis of the impact of the steeply progressive rate structure imposed by the United States government in recent years is presented in a vast, multivolume study being carried out by the Graduate School of Business Administration of Harvard University. Professor J. Keith Butters, one of its principal authors, recently summarized the findings to date: "To the extent that the tax structure has impaired the performance of the economy, our data point consistently to the conclusion that it has done so much more by restricting the financial capacity of key groups in the economy than by impairing the incentives of key groups."

Effects on incentives

In the light of the high rate of growth exhibited by the American economy in the past decade, this conclusion should not come as a particular surprise. In fact, there are a number of important reasons why even a steeply progressive tax system may produce only very limited dampening effects on incentives. These are: the opportunities for avoiding the full impact of high income tax rates

through capital gains, stock options and other devices; the fundamental importance of nontax considerations in reaching basic economic or business decisions; the discovery that high tax rates tend to be less harmful when they are imposed under conditions of rising incomes; and, finally, the fact that higher tax rates may actually cause many individuals to work harder to achieve the economic goals which they have set for themselves.

Keys to economic growth

The primary issue in tax revision thus revolves around the impact of the tax system on the financial capacity of key groups in the economy. But just who and what are these key groups? On this point there is considerable disagreement. Labor union economists, for example, argue that consumers are the key to economic growth, for unless they obtain additional purchasing power sufficient to absorb increases in production, economic growth is impossible (a point of view which tends to support either across-the-board income tax cuts or increases in basic exemptions). On the other hand, the National Association of Manufacturers argues that it is savings—and the additions to productive capacity they make possible—which are the real key to economic growth.

From the standpoint of maximum economic growth, both the logic of economic analysis and the lessons of economic history tend strongly to support the arguments of the NAM and those with similar views. In the longer run, increases in productive capacity do work to create the consumer purchasing power that is necessary to absorb additional output. The major long-run limitation to economic growth appears to be a shortage of savings; and a program of tax reductions will accelerate the rate of economic growth.

Nevertheless, the real issue in tax revision would seem to be far more social than economic. Is the goal most desired by and most suitable for the American people that of maximum economic growth, or is it one of a stable and sustained rate of growth which will minimize economic dislocations and unemployment and ensure continuous economic progress?

This is a question which each American citizen must answer for himself, but the writer, impressed by both the great number of rigidities and the high level of per capita income now present in the American economy, definitely favors the second goal. If stable growth becomes the primary objective for the economy, the basic consideration is one of

ensuring that the rate of increase in productive capacity does not outrun the rate of increase in consumer purchasing power. This consideration implies that the progressiveness of the tax system should not be reduced to any very great extent.

Tax differentiation

The second major kind of tax conflict found in the United States—that of the degree of tax differentiation in relation to source of income—is much easier to analyze economically. Tax differentiation not only affects the equity and fairness of the system but may also interfere with the efficient functioning of the economy. For, in addition to discriminating among families with incomes of the same size which come from different sources, the tax system also affects the patterns of relative prices and profitability and thereby influences the structure of production and consumption and of resource-allocation. Some features of the revenue code (like the special depletion allowances for petroleum) increase the relative profitability of investments in particular industries and encourage capital resources to be invested in those industries. Other features (such as excise taxes) decrease the relative profitability of investments in individual industries and there-

by tend to discourage investment.

Tax differentiation extends not only to the industrial source of income but to its form as well. Thus, the system tends to discriminate against dividend recipients of small and moderate means, while favoring those like farmers who receive nonmonetary income or those who own certain types of assets (securities of state and local governments, owner-occupied houses). The system also tends to penalize an individual with a fluctuating year-to-year income as compared to one with a more stable income, even though the average income of each is the same over a period of years.

Capital gains treatment

The concept of "treating similar people similarly" has long been considered a basic canon of justice by most of those who have devoted thought to the definition of a fair and equitable tax system. One of the longer-run goals of any program of tax revision should be the gradual elimination of almost all kinds of tax differentiation based on source of income. Such a goal would necessarily involve some provision for averaging income for tax purposes over a period of years, an amendment

to the revenue code which would also eliminate all of the current debate over the desirability for special tax treatment of capital gains.

There is one other possible major area of tax reform which can be of considerable significance. The thorny problems involved in intergovernmental fiscal relations arise chiefly because the proportion of over-all functions the American people assign to state and local levels of government tend to be much larger than the revenues these units of government can collect efficiently. However, this basic imbalance between the functions assigned and the capacity to tax has undoubtedly been aggravated by the federal government's entry into a number of areas of taxation which could just as easily be administered effectively by the states. It can be argued that a major objective in any future program of reducing federal taxes should be a gradual withdrawal of the federal government from such areas of taxation.

In any case, whatever specific tax reforms we finally adopt, the revisions will have to meet the needs of our economy and the demands of people for an equitable sharing of our tax burdens. ■

Simple Arithmetic

A CONGRESSIONAL COMMITTEE looking for economies discovered that the Internal Revenue Service could save \$250,000 a year by reducing the width of cigarette tax stamps by 3/16's of an inch.



AMERICA 1975

SERIES

Automation Pilots A New Revolution

When machines take over tedious
factory jobs, fundamental changes in
our work habits will be necessary

by John Diebold

MECHANIZATION through power, which substituted inanimate energy for Man's brawn, was the key to the first industrial revolution. Within a century, human and animal effort declined from 90 per cent of the total motive power in the economy to 10 per cent. Automation, called the second industrial revolution, is not going to reduce that figure much further; its chief impact will be social rather than technical, and education will be its major problem.

For, if we look at the industrial process today we find that human beings are no longer active principally as beasts of burden or mere sources of power; instead they are *controllers* of mechanical power, *guides* for inanimate energy, *links* among mechanized operations. Automation is altering that by providing us with machines

and automatic control systems, which perform many of the guiding functions.

The Industrial Revolution was revolutionary because it created a whole new *environment* for Mankind—a new way of life. What it gave to history was much more than the steam engine and the cotton gin, the railway and the power loom. It gave society a whole new tempo and new outlook. It took men off the fields and out of small shops and put them into factories. It gave us mass production, and, through mass production, the first civilization in history in which luxury was not confined to a few.

In other words, the machines were agents for enormous social change. No inventors, least of all Richard Arkwright or James Watt, thought they were changing civilization itself. Yet, for

us, looking back, that is precisely what was *revolutionary* about their inventions. Automation promises to be just as fundamental and to have far wider effects than mere technology. These are the changes which are being wrought:

- A world in which a smaller percentage of our labor force will work in factories;
- A world in which less monotonous and tedious work will require human effort;
- A world in which the work week is greatly shortened;
- A world in which the pace of life slows down, in which leisure becomes the center of life, rather than the fringe.

This is a revolution which will take us *beyond* the civilization of an industrial society, a revolution in which human beings will be largely freed from the bondage of machines. It will raise an entirely new set of problems. It will tax our ingenuity to its utmost. And it will bring about its principal changes—many of them, at least—before 1975.

Automatic auto plants

The first picture that probably comes to mind when automation is discussed is one of the highly automatic automotive plants of the Midwest. These plants have received great publicity and the concepts underlying them are of considerable importance in any area

of the economy where we can count on long runs of a non-varying product. Such areas, however, account for little more than one-fourth of our national output of hard goods. The remaining three-quarters are produced in short runs, lot sizes of less than twenty or thirty identical pieces. In manufacture of this kind the transfer machine or Detroit-type automation, as some call the mechanically linked automatic machines, is of little use. It is here that the feedback or self-corrective circuitry of the electronics engineer is beginning to be applied, and by 1975 a very large proportion of job-shop operations will be handled by automatic machines that are flexibly controlled. The sequence of operation of these machines will be altered by changing a magnetic tape and making a few minor adjustments in the tool setting. Through flexible yet automatic machines of this kind automation will have an enormous impact.

Similarly, the technology of the electronics engineer will be applied very widely in our offices by 1975. We are already beginning to see the introduction of data-processing equipment in offices today. By 1975 it will be very common. The accounts and records of

John Diebold is generally regarded as a leading expert on automation.

a company will all be maintained by machine systems.

We are today building and using the predecessors of equipment that will be common in 1975. While we are relying primarily on large general purpose computers, we are already beginning to see the introduction of special purpose machines which are made up of "building blocks" that can be adapted to the particular needs of an individual business.

Aristotle's dream

Ultimately, of course, what all this boils down to is the fact that science and engineering make it possible for us to use less labor to turn out the goods and services with which to provide society. Increased mechanization is going to allow us to shorten the work week. From earliest times man has ceaselessly applied his ingenuity to the task of improving his productive means—his skills, his tools, his machines. Aristotle dreamed of the day when "every tool, when summoned, or even of its own accord, could do the work that befits it." In the long run, automation promises to make Aristotle's dream a reality.

In the short run, we have a responsibility as a nation to help bridge a period of transition. We must make it practical for men whose specific jobs may some day be replaced by machines to begin

training in the newer skills which automation demands. Frequently those workers with the greatest seniority cannot readily be transferred to new jobs. *Advance planning* must be undertaken to deal with each such problem. With foresight, the transition to automation can be made with far less disruption than has characterized some of the great innovations in industry in the past.

For any real improvement of the situation, we must look to something more than merely specialized preparation for the problems of automation. Even in the simplest jobs, automation will require an increasing ability to think, increased imagination and judgment, and increased understanding of mathematical and logical methods—in brief, increased education, in the largest sense of the word. This education problem exists on several levels: technical, managerial, training and retraining in job skills, and education for leisure.

The first of these is fairly obvious. We are desperately short of technically trained individuals at the present time. In fact, the principal factor holding up the progress of automation is a shortage of competent technically trained scientific and engineering personnel. This problem is going to grow more acute before it is solved. But we are beginning

to realize that we are using engineers and highly trained individuals for jobs which could be done as adequately by individuals with less scientific training. In addition, we unquestionably have the fundamental educational problem of training technical people in a more adequate manner than we have in the past.

The problem of managerial education is not understood as well as it should be. For example, the principal use now being made of the digital computer and other data processing equipment is to relieve clerical shortages and to reduce clerical costs. In reality the development of automatic data processing has provided management with a very powerful new tool that can establish tighter, more analytical and more objective control of an enterprise. As yet, however, only feeble steps have been taken toward more effective management control through the use of this equipment.

Training and retraining in specific job skills is a problem of the labor force at large. It is one that will grow as the new technology is introduced over a wider area. Not only is retraining of individuals on the job involved but the teaching of specific skills to students in school must be considered. To a certain extent we are today training students for

jobs that will not exist when they are in middle life. We can no longer count on training individuals in the performance of specific skills with the hope that by the time they are mature the world will still be able to use these skills.

More free time

Ultimately the most pressing problem is to educate individuals for a society in which leisure is the center of life rather than the fringe. Two hundred years ago, when it was necessary for most people to put sixty or seventy hours a week in miserable factories, just in order to survive, the question of what to do with non-work—with leisure—never presented itself. Today, with our forty-hour workweek, we are already facing the two-day weekend with something of a self-conscious attitude. It will become a perplexing problem when leisure time spills over from the weekend to Monday and Friday and when a man leaves his desk or station after six hours of work, still fresh and full of energy.

Like any other major extension of our means, automation increases our responsibility to seek the best ends toward which we should be working. We are coming to realize the increasing importance of the humanistic studies to refine our values and

inspire our aims in a rapidly changing world.

Many people believe that as we continue to apply more and more scientific inventions, we run the risk of subordinating the individual to the machine. They fear that in the short run we may cause widespread unemployment by too rapid mechanization, and in the long run we may depreciate human values by carrying technology too far.

Fears not justified

Neither fear is justified. Automation may well provide the solution to some of the human problems created by mechanization. The starting and stopping, loading and unloading, watching for machine mistakes, the copying and filing of routine information and similar repetitive tasks which fill the day for so many workers, and which are the root of so many of the human problems of today's industry, will be precisely the jobs eliminated by automation.

The jobs that will be created, in addition to the obvious scientific and design positions, will be maintenance jobs, permitting a higher degree of freedom and individual satisfaction in the work. Skilled mechanics, electricians and instrument men have greater ingenuity and more pride in achievement than one who is paced

by the machine and who spends his working day subservient to a machine which does the real task of fabricating or processing. Far from being degrading to the worker, automation is thus the factor which will upgrade the worker. But, unlike some predictions that there will only be room for Ph.D.'s, the upgrading will be within the proved capacity of the work force.

I do not believe that automation holds any threat to our economy. By giving us enormously increased productivity, on the contrary, it promises to invigorate it. But automation does hold out a promise of a fundamental shift in our way of life.

Like the pioneers of the Industrial Revolution in the eighteenth century, we face a world in which only one thing is sure: *change*, fundamental change. We are leaving the pushbutton age and entering an age when the buttons push themselves. We should greatly benefit from it. Farsighted individuals see in automation not only the possibility of decreasing operating costs, but also the prospect of new fields with new products and new services. Entirely new markets are coming into existence, and alert men are seizing the opportunities they see before them. Automation offers as great a challenge and reward as any ever known. ■



Leisure as a 'Legitimate' Activity

AMERICA 1975

SERIES

As we find and make more spare
time, leisure should become
as valued an activity as work

by Leonard Reissman

AMERICANS find it difficult to keep the world of work separate from their world of leisure. The way in which we use leisure time, and the attitudes with which we approach it, indicate that we let the values from our working world spill over into the world of leisure. Probably in no other country is the production of goods for leisure so great, nor the way leisure is used so business-like.

It is understandable that leisure activity should be dominated by work-oriented values because America was founded on, and still upholds, the belief that work is a positive good and that idleness is wasteful. Americans live by Ben Franklin's adage: "Do not squander time for that is the stuff life is made of." Having always be-

lieved strongly that work benefits the community and improves the individual in a way which cannot be duplicated, work for us has almost assumed the role of a "calling."

These beliefs continue to shape our attitudes and our actions in the sphere of leisure; the era of the sixty-hour week still lies psychologically close. Americans still appear to be overwhelmed by the seemingly endless hours gained from a shortened work period. As a result, a cultural lag has developed so that the social values of the past have not yet been adjusted to the requirements of the present. What is more, as the forces creating leisure time move ahead at a faster rate than our ability to adjust to them, the gap becomes harder to close.

This lag can be seen in the movement toward automation. Aided by our scientific knowledge and by our positive attraction for machines, automation is steadily gaining in the home, in the factory, the farm and almost everywhere else that human beings work. But the attitudes held toward work and leisure are changing slowly because they touch upon beliefs that have been long held, and they affect a way of life long accepted. This means that attitudes setting the character of our leisure activity are not likely to undergo any startling shifts by 1975. More probably, a few stable, ingrained social values drawn from our work will determine our attitude toward leisure time.

Productivity is one such value that has been wrenched from the work world to do double-duty as a rationalization for leisure activity. Fearing that leisure might be contaminated by its proximity to idleness, many Americans must justify the way they spend their leisure time by an appeal to productiveness. Thus, weekends are busy with the noises of many people doing-it-themselves—assembling furniture, laying floors, painting and putting piece “A” in-

to the slot labeled “B.” The do-it-yourself mania offers the means not only of filling up spare time, but what is even more important, of producing something useful.

Productiveness in leisure is also interpreted by some as meaning purposefulness. These people read books and magazines or attend schools and lectures regularly, not for any inherent enjoyment but because they must have a set purpose, whether it be to “broaden their minds,” to get ahead or to learn something useful. This, of course, does yield some important gains for the democratic community by fostering an awareness of contemporary issues. The blessing is not unmixed, however, for while people in the middle-income group use their leisure to participate in community affairs, persons with lower incomes tend toward a more private leisure that isolates them from the social environment. This differential in social participation raises basic issues for a democracy.

Efficiency is another value which has meaning in the work world but which seems uncomfortably out of place in the leisure world, where it leads us to buy machines and gadgets such as golf range-finders and fishing reels that haul a fish in automatically. But obviously, the rational and calculable decision of a production manager to buy equipment for his

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factory cannot be applied to the leisure sphere, even though many thousands who have assembled home workshops filled with expensive power machinery feel called upon to explain their purchases on the basis of efficiency. Actually, it is not efficient in the way a plant manager defines the term, but it is efficient only insofar as the individual symbolically assumes machinery is inherently efficient. That home machinery will, in most cases, probably never save enough to pay for its cost does not prevent those who create home factories from justifying them as "efficient."

Efficient accomplishment

The emphasis on efficiency in our leisure activity is also reflected in our acceptance of another value taken from the world of work: standardization. Many do-it-yourself activities require little more than perseverance in assembling pieces according to a prescribed step-by-step procedure. Since the final product is almost certain to be presentable, the leisure-timer is left with a feeling of efficient accomplishment, without having risked the psychological insecurities of personal creation. Painting sets, for instance, where would-be Rembrandts dab prepared colors on numbered sections of an outline picture, transform creativity and

personal expression, ordinarily the principal gains of leisure, into an ability to follow the instructions of standard mass-produced patterns.

Competition is still another value which is rooted in the economic sphere but which has steadily infiltrated our leisure activity. While we recognize the beneficial effects of competition in the world of business, there is some question as to its desirability in leisure. Hi-fi buffs, for instance—those seekers after true sound fidelity—surround themselves with a jungle of phonographic equipment not to listen to records in quiet repose but to compare the performance of their equipment. A train whistle is more likely to be on the musical menu than Beethoven's Ninth. Buffs, in whatever field of interest, share this common characteristic: the business-like, hard and driving pursuit after a goal of perfection, with success or failure depending upon comparison with other devotees.

Motives for leisure activity

Although the fads of leisure undoubtedly will change in the next two decades, affected as they are by the fickleness of public taste and the ingenuity of advertisers, most Americans will enter their leisure world in 1975 as they do today, primed by one or more central motives:

(1) Purposive leisure will continue to dominate, precisely because we value the concept of productivity so highly. The do-it-yourself trend will not only continue to hold sway, it will no doubt gain new converts because doing-it-yourself can use up the increases in leisure time before they begin to settle too heavily.

(2) As the concern with social position and social rank in the community becomes more and more dominant, what we might call status leisure will increase. Leisure activity is not immune to the sting of competition and social ambitions, and it will become integrated into the struggle for status. This trend will become accelerated with the continued growth of suburban areas. We might view suburbia as a homogenizing social force, for it selects persons who are social equals in the city and settles them in a common neighborhood outside the center of the city. Persons who were unconcerned with status while living in the city, surrounded by all social types, suddenly become status-conscious when they find themselves in a situation encouraging social comparisons. This will happen not necessarily because individuals willingly enjoy spending their time in one way rather than another, but because a style will be set in their social world with

which they must keep pace.

(3) Mass leisure will be another element on the 1975 scene. We can see even now that many Americans prefer to spend their leisure time watching others rather than actively participating themselves. Americans of the future will tend even more to pay to watch commercialized sports, using their time to derive vicarious pleasure from performances of experts.

(4) Finally, escape leisure will continue in the future. The transformation of our labor force into machine tenders and idea men will heighten the need for these men and women to escape from routine, to work materials with their hands and to complete a job from beginning to end. The need has been called by Thorstein Veblen the "instinct of workmanship," and though the word "instinct" may not be valid, the sense of Veblen's phrase does seem to apply.

Overcoming cultural lag

In the long run, the emphasis upon leisure must finally overcome the cultural lag that has been created by the conflict between work and leisure. Leisure must emerge in the future as an activity legitimate in its own right. A shift of this scope, however, cannot occur without creating repercussions throughout our social

structure, just as hitting one bowling pin in a set invariably starts a chain reaction. For instance, up to now our system of allocating social rewards and conferring social status has been exclusively tied to the production process. No doubt efficiency, purpose and accomplishment will continue to determine the manner and quantity of the rewards that are disbursed for leisure activity. But in addition, it may be that the leisure world will eventually develop its own system of status and rewards—a trend which is hopefully, even now faintly, visible. The person who becomes expert at some specific leisure-time activity is beginning to appear as a social

hero. Not just an athletic celebrity, such as the dentist-golfer or the doctor-miler, he is the hero who wins his honors in a little theater group recreating a Broadway play in a school auditorium, and in art exhibits at the local hospital or church. Developments such as these indicate that the hobby is becoming a legitimate and richly rewarding activity to be judged by its own criteria. Whatever the obstacles which are yet to be overcome, let us remember that society must make its own adjustment; and that if not by 1975, then certainly some time thereafter, Americans will have to learn to live in leisure without applying work values. ■

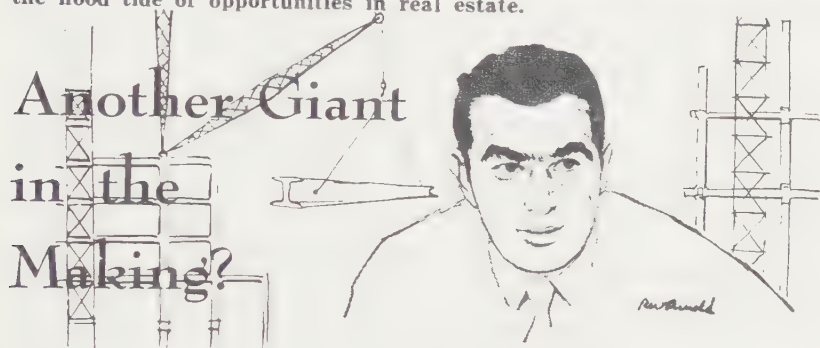


Bowlomania

BY THE END OF 1956 more than twenty million people will at some time have hurled a hard rubber ball down a sixty-foot alley at ten maple pins. These bowlers, known to each other as "keglers," will spend about 250 million dollars on their sport, ten times as much as both major baseball leagues collected in gate receipts last year. More than 3,000 new bowling lanes were installed in 1955, and industry officials expect the number to grow steadily for the next three or four years. Total number of lanes in the country is estimated at 97,000—in some 9,000 different establishments. Today's twenty million bowlers compare with only twelve million keglers as recently as 1946.

Although bowling was known to the Egyptians in 5,000 B.C. and was brought to the United States in 1623, the game as it is known today took shape only in the 1890s. Brought to this country more than three centuries ago by Dutch settlers, the game used nine pins and was called kegling. By the 1850s bowling had spread throughout the East and had become a main support of gambling. Antigambling laws, aimed at curbing betting on "ninepins," were passed in several states. The eventual result was a legal ban on the game. Before many years, however, unknown innovators added another pin, thus evading the ban on ninepins and incidentally improving the game.

When it rains it pours, and right now young Howard Garfinkle is riding the flood tide of opportunities in real estate.



by Michael Roberts

BY HIS OWN admission, Howard Garfinkle, head of a multi-million-dollar realty firm, has never voted in a Presidential election until this year. How to explain this abstinence from civic duty on the part of a native born successful businessman? Simple. Only recently did Garfinkle turn twenty-two.

There was a time, early in his career, when Garfinkle could not endorse checks made payable to him because he wasn't of legal age. His mother had to do the signing for him, a circumstance which could be downright unnerving for the prissy accounting departments of some of the country's industrial giants. One such check, for one million dollars, created quite a flurry at the payee's office since no one there knew the company had been dealing with a boy who

more properly should have been playing ball in some empty lot somewhere. This "kid" was in the business of selling lots!

That was five years ago. Today Garfinkle signs and endorses his own checks, and there is no doubt he is making money in the proverbial manner—hand over fist. He not only knows how to make money out of real estate, but he has learned to make his way in the building and construction fields as well. Older men might paraphrase G. B. Shaw's observations about youth and say it is too bad business success must be wasted on one so young and unruffled. But watching Garfinkle in action and listening to him talk leaves one with the feeling that the success is merited.

The young man has energy and talent, persistence and know-how.

He understands real estate. If specific information or experience is lacking, he knows where to get good advice. Most important, he hasn't been around long enough to develop any habitual business blind spots. How should an industrial tenant move his 2500-ton extrusion presses into a Garfinkle built plant? How can a jurisdictional dispute between movers and installers be forestalled? What action is indicated if the local public utility cannot bring sufficient power to an existing plant site? These may be the everyday problems of everyday businessmen. Where answers must be found before a deal can be closed, Garfinkle will find them.

Self-improved businessman

Garfinkle himself does not claim to be a Horatio Alger. In truth, he is not exactly a self-made man. Rather, you might say he is a self-improved businessman. He inherited the Bengar Corporation at the age of seventeen upon the death of his father. The business was then a very sizable property-management firm. Among its holdings were a bevy of apartment houses and stores, and an assortment of unimproved land in and around Paterson, New Jersey. The building boom had already attracted the attention of the elder Garfinkle. With real estate values rising nationally on an average of

32 per cent since 1945 alone, the Bengar Corporation was already in a strong capital gains position when in 1950 young Howard, a freshman at Miami University, succeeded to the presidency. Therefore, Garfinkle had the capital to throw himself headlong into the rapidly unfolding real estate opportunities.

If Garfinkle had taken seriously the opinion of his real estate professor at Miami University, he would have steered clear of the real estate business. According to the prof, the young man didn't have the head to become a success in real estate. Garfinkle belied this assessment of his abilities by closing a \$55,000 land deal in Miami, on which land he built a \$225,000 building to be leased by IBM as a district sales office. This was accomplished while commuting weekly between classes at Miami and the Bengar offices in Paterson.

There is an interesting side light to this earliest of Garfinkle's operations. After surveying the Miami area, Garfinkle found a parcel of suitable property owned by a man who operated an antique shop. By way of getting an inside track on the property he needed, Garfinkle went on a buying spree. He bought every

Michael Roberts, free-lance writer, wrote this article on special assignment for CHALLENGE.

antique—genuine or otherwise—the dealer had for sale, and then capped it all by buying the land on which to build the IBM sales office. Today, some of the better items thus purchased are part of the decor of his small but luxuriously appointed office.

An old formula

Far more significant for the future of Bengar, however, was the real estate formula that Garfinkle worked out for the Miami deal. The formula was not original, for the giants of real estate had been using it for some time. To Garfinkle's credit is the fact that he could recognize, when he saw them, signs of the economic times. With industry engaged in the most dynamic era of expansion in American history, appropriate land sites for new plants and offices were at a premium. If, in addition, the proper facilities could be built on and around such sites, the economic rewards could be considerable. But how to finance such facilities? The manner of financing then is, indeed, all important.

In essence, this is how the formula works. Garfinkle owns the land (either Bengar already owned it, or he buys it); he also owns the building put up on the land (financed through a mortgage, with the land and building being used as collateral). The

facilities are then leased to an industrial tenant, who pays rent to Garfinkle and charges the rental to operating expenses. Taxwise, this arrangement represents a greater annual saving for the tenant than the mere 3 per cent depreciation allowance on a building owned outright by the occupant. In short, the lenders, (banks, mortgage companies, etc.) actually finance the industrial tenant. As the middleman, Garfinkle pays off the mortgage over a twenty-year period while charging the tenant for both the use of his land and his building.

Extending his operations

Garfinkle has used this formula to increasing success. During the last three years Bengar has moved from working on industrial buildings of 5,000 square feet to a high of 100,000 square feet. The annual output of square footage is now 225,000. Of course, mortgage credit has been tightening up. But Garfinkle feels he can now cope with the tight money market as well as any real estate man. In the meantime, although the bulk of his operations is still in New Jersey, he has been able to extend himself from Florida to Massachusetts, with Connecticut, Pennsylvania and New York thrown in along the way for good measure.

But land by itself is still a valu-

able asset, and sometimes one has to put nothing on it to realize a profit. For example, before the postwar real estate boom, Garfinkle's father had acquired a ravine and a hill in Hawthorne, New Jersey, a few acres in all, for just two dollars. This property was still a ravine and a hill when young Garfinkle decided to move the hill into the ravine, thus leveling out his holdings. The next step was to start selling—at \$25 per front foot. In all, Garfinkle got \$134,998 more than the original purchase price for that "worthless" holding.

Vertical organization

What has this adroitness during the past five years done for Bengar? The family-owned corporation is still basically a property-management business. But it has become more than that. Today, it also acts as a bank or clearing house for ninety other active companies having to do in one way or another with the searching of titles, buying and selling of properties, the building and leasing of industrial sites and facilities, construction, engineering, architectural designing, and so on. In short, Bengar has become a vertical organization providing complete service in every conceivable type of real estate operation.

The latest turn in Garfinkle's career came with the decision to

build a six-story, fireproof luxury apartment house in Passaic, New Jersey. Garfinkle wants to specialize in building in cities with populations of between 75,000 and 100,000, where, he says, there is a market for the type of luxury multiple dwellings that today characterize New York City's east side. If Passaic is any guide, Garfinkle is right. He rented half of his sixty-two luxury apartments on the basis of floor plans alone.

Time on his side

And so it goes. When it rains, it pours, and right now Howard Garfinkle feels he is riding the flood tide of the opportunities in real estate. There is no telling how far this young man will go. Certainly his six-days-a-week stint at the office indicates there will be no want of effort. Garfinkle confesses that he wants to be the biggest man in the field. That is a tall order in a world of Zeckendorfs, Tishmans, etc., but there is no harm in trying. He does have time on his side.

What does Garfinkle think of his success? "Money is a way of keeping score," he says. "The real thing, the game itself, is in what you do and how well you do it." If he believes what he says, Garfinkle has substance as well as good business sense. The real estate world may, indeed, have another giant in the making. ■

THE PRICELESS INGREDIENT



by Beatrice Judelle

Customer reliance on trademarks and brand names has led businessmen to devote much attention to publicizing and protecting their brands

YOU DON'T look for a brand name on a watermelon. You look at a plug cut from it in order to judge for yourself the quality of what you are about to buy. When it comes to buying an automobile, television set or washing machine, however, you no doubt turn to brand names to guide your selection.

Not knowing, or needing to know, the intricacies of manufacture of the multitude of things we use, we have long since learned to rely on what Squibb's familiar advertising calls "the priceless ingredient, the integrity of the maker."

Naturally, this customer reliance on trademarks and brand names has led businessmen to devote much attention to publicizing and "protecting" them. But are

the large sums spent in establishing and advertising brand names justified by the competitive advantage it gives the manufacturer? Is this competitive advantage big enough to allow control of a market by old manufacturers to the exclusion of new ones? And does this business of brand names really benefit the buying public as much as is generally assumed?

There is, to begin with, little doubt that the manufacturer of brand-name articles enjoys certain definite advantages, such as the solid base of continuing demand that grows from consumer confidence in his products.

The reality of consumer confidence in brand names was made dramatically clear during World War II. People swooped joyously on familiar brand-name articles

wherever they could find them. Many articles were rationed, and if it took one ration coupon to buy a pair of shoes whether they were of a famous make known for quality and long wear or of an unknown make which might prove very disappointing, it was foolish to risk buying the unknown brand if the known brand was available.

A "similar" item

The overwhelming preference for established brand-name articles extended also to items that were not rationed, but for a slightly different reason. Under wartime price control, an identical product had to carry the identical price it had carried during a prewar base period. In the case of established brands, comparison was simple: it was sure to be the same product at the same price. With new products and new brands, however, the legal price was that of a "similar" item—and "similar" proved in many instances to be a remarkably flexible word.

In such situations, it is easy to see that the preference by the buying public for one brand over another means greater sales, and greater profits for the manufacturer of the preferred brand. It also gives this manufacturer a certain power over the retailer.

The reputation and advertising of the manufacturer has already created a demand for the brand-

name product, and the retailer will be anxious to stock it. Because of this retailer preference, the brand-name manufacturer can and does choose his retail outlets, in some cases even restricting his product to a single outlet in an area. In addition, he can also virtually dictate, by means of the fair-trade laws and suggested prices, the price at which his product is sold at retail. If, as sometimes happens, that price yields a lower markup for the retailer than he would get on an unknown brand, he can hope to offset his lower unit return through a greater sales volume and the creation of traffic into his store (and the possibility of other sales) by customers seeking that product. If the merchant holds an exclusive franchise in his area (something our antitrust laws do not permit him to demand but permit the manufacturer to grant) these offsetting factors are all the more marked.

The net effect of these practices by brand-name manufacturers is to control to a considerable extent the marketing of their products, and it would seem to constitute an undue advantage over the unknown manufacturer in the competition for both the customer's and the retailer's attention.

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But this competitive advantage depends on the sales value of a trademark or brand name. Back in the 1930s, for example, volume-hungry retailers promoted known brands at cut prices to draw traffic, hoping customers would buy enough other merchandise at regular prices to offset the losses on "leader" items. Grocers were particularly fond of this tactic, offering various household necessities in turn as "specials." But department stores, too, engaged in price wars with one another on a long list of better known brands. Since the public knew the usual price of favorite brands, a price cut could be counted on to line up customers looking for a bargain. The effect of this retail stratagem, however, was to weaken permanently the customer's confidence in the price of a brand once that brand had been subjected to this treatment. After a one-dollar article had turned up in successive stores, or at successive intervals, at 98 cents, 89 cents and 59 cents, it became impossible to convince the customer that it was ever worth the original one dollar or ever would be again.

Brands began to regain some of their price stability after fair-trade laws really got under way. (In 1937, the Miller-Tydings Act was put into law, permitting individual states to set up their own laws.) Retailers who cut prices on

brands protected by fair-trade contracts were subject to legal action on the part of the brand-name owners. Nationally known brands could now be found at identical prices in every store in town. There was no longer any incentive to shop for lower prices in established brands.

But price uniformity did not end the problems of the brand-name manufacturer. The private brand came into its own. Food chains began to sell canned and packaged goods under their own labels. Department stores introduced individual private brands of cosmetics, toiletries, household appliances, hosiery and shirts. Usually these were priced lower than nationally advertised brands, and the price differential was highlighted to the consumer with a "*Look, Ma! No national advertising!*" approach.

Element of reliability

The implication that a nationally advertised brand was to be compared with unknown brands only on the basis of price created skepticism about the advertised value of a brand name. It diverted the customer's attention from the element of reliability implied in a known and respected trademark. On the other hand, it gave the small manufacturer a chance to introduce a new brand with a minimum outlay for national advertis-

ing, or even none at all, and with sufficient price inducement to the store and the customer.

When an established leader in a field introduces a new brand name, a new problem crops up. The post-war boom in synthetic detergents illustrates the problem. The same manufacturer may make a soap powder, a sudsy detergent, a nonsudsy detergent and a liquid detergent. When they stand side by side on the grocer's shelf in apparent direct competition with one another, the bewildered customer can be forgiven for wondering if the manufacturer really believes in *any* of them.

New product, old trademark

Another problem occurs when a new product appears under an old trademark. This can happen in one of two ways. For example, the manufacturer of one or two items (perhaps refrigerators and washing machines) will decide to introduce a whole new line of items (household appliances maybe) and he will use the successful brand name for all of them. Or the owner of a respected trademark will offer it to other manufacturers for use on various kinds of merchandise in return for a license or roy-

alty fee. This practice can be of inestimable value to the newcomer who thus benefits from the market acceptance of the trademark.

At times it begins to look as if the consumer will go back to haggling and comparing one item of merchandise with another, taking nothing on faith—branded or otherwise. But it is hardly likely that the owners of famous brands will stand by and let their valuable trademarks be forgotten. Nor is it likely that newcomers will fail to grasp every opportunity that presents itself to attract customers to their new products. The consumer will watch for action from both sides.

The story is told of the young mother who looked over a rack on which were displayed baby pants of several makes. The one she wanted was not there and she asked for it by name—a name not yet widely known or advertised. A bystander asked her how she happened to ask for that brand, to which she replied that she had purchased it once before.

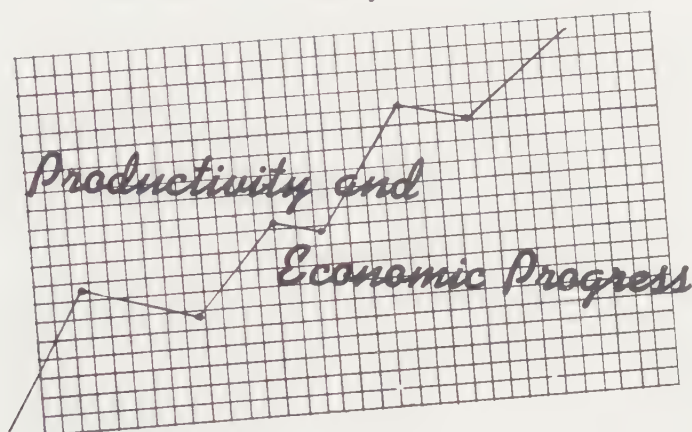
"And you remember the name?"

"Mister," she said, "when you find a pair of baby pants that will really wear, you remember the name!" ■

Inside Out Is Next

APPARENTLY out of admiration for the brand name you can spell backwards, Serutan, the makers of a new soap powder gave their product a name that can be spelled upside down. Using a lower case *d* and dotting the *i* above and below, they came up with "dip."

A high rate of productivity advance points up the underlying health and creative dynamism of our economy



by John W. Kendrick

PEOPLE HAVE become more productivity conscious in this postwar era than ever before. Our increasing knowledge of long-run economic trends has revealed that most of the 2 per cent average yearly rise in the American scale of living in this century may be attributed to advances in productivity.

American business executives have long known that firms which do not keep up with the rise of productivity in their industry cannot survive. Industries that increase their productivity at a lower rate than the national average find the prices of their products rising faster than the general price level, and their share of the national market shrinking. Most of the European productivity

teams have stressed the key role of competition in the United States in forcing businessmen to improve the productivity of their firms in order to prosper.

Since World War II, labor has also become more productivity conscious. Beginning with the General Motors-United Automobile Workers contract in 1948, an increasing number of labor contracts embody automatic "annual improvement" wage increases based on the rising productivity trend in the industry. Labor leaders tend to argue that labor is primarily responsible for productivity gains and should get the benefits of such gains. Management spokesmen, on the other hand, maintain that productivity advances are attributable to the

efficiency of management and continuous improvements in the equipment with which labor is provided.

Informed people generally have become increasingly aware of the importance of productivity, but still have many questions about the subject. Just what is productivity? What has been its historical rate of growth? What are the causes of productivity advance? What will future increases be, and how may they be shared?

"Total productivity"

In the first place, what is productivity? Most people would answer "output per manhour." This measure is useful in showing changes in the efficiency with which labor is used in production. But it is not the whole story. Capital, including natural resources, contributes about half as much to the national product as does labor. Output must be related to both labor and capital "inputs" so that changes can be measured in over-all productive efficiency, or conversely, the net savings that are achieved in the use of all input. We call this measure "total productivity."

Since 1900, total productivity has risen at an average annual rate of almost 2 per cent. Output per manhour has risen by somewhat more than 2 per cent a

year, since capital input has increased more than labor input as measured in manhours. Two per cent is a small figure, but when compounded over the fifty-six years of this century, it accounts for more than half of a six-fold increase in real national product. Increases in total productivity are chiefly the result of innovation and technological progress, together with various economies that accompany expanding production, such as the spreading of overhead costs among the greater number of units produced.

The growth in productivity has not proceeded smoothly from one year to another. Annual changes in productivity have ranged from more than 5 per cent in some years, such as 1950 when output was expanding rapidly, to negative figures in 1946, a year plagued by reconversion problems. The variability in productivity change is associated with the business cycle to some extent. Over the past half-century, productivity gains in years of recession have averaged less than half the average gain in years of economic expansion.

It is significant that the trend increase in total productivity has

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been greater since the end of World War I than it was in earlier decades. From 1899 to 1919, productivity increased at an average rate of little more than one per cent a year. Since 1919, the rate has averaged 2.1 per cent. The acceleration in the rate of productivity gain following World War I was a manifestation of America's technological coming of age. At the same time, output per manhour increased at a rate of 2.6 per cent. This was accomplished in two ways: by substitution of capital for labor, and by improved productive efficiency generally which produced savings in capital as well as in labor. We have only to think of our faster, more efficient, and frequently less bulky, types of equipment—such as machine tools or railway rolling stock—in comparison with old models to realize that output per unit of capital has gone up. The increase has averaged 1.7 per cent a year.

Growth in total productivity has varied rather widely among industries. Between 1899 and 1953, it has ranged from less than one per cent in anthracite coal mining; 1.5 per cent in trade and services; 2 per cent in manufacturing; 3 per cent in transportation; up to 5 per cent a year in electric and gas utilities.

Despite considerable variation in productivity gains by industry,

more than three-fourths of all industries studied by the National Bureau of Economic Research show average gains of from one to 3 per cent a year. It is significant that no industry has shown productivity declines over the long run. It should be noted, however, that there is much greater variation in rates of productivity advance among industries in short periods than in long periods. This indicates that technical improvements originate first in one industry, then in another, and that it takes time for innovations to spread.

Attempts to command Nature

What are some of the chief factors behind technological advance? First, there must be creative ideas for new or improved ways of producing commodities. Such ideas may come from technically minded persons engaged in production. Increasingly, however, they come from laboratories organized for research and development, from teams of trained engineers and scientists who specialize in improving equipment, processes, products and procedures. Behind much developmental work stands the pure scientist, who, by increasing our knowledge of Nature, opens new vistas in our attempts to command Nature.

Next, there must be the innovator, who puts the new methods or

equipment into practice, and there must be providers of capital willing to assume the risk involved. It is necessary for the innovator to have a work force willing and able to adapt to technological changes.

Finally, the society at large must possess, or wish to develop, the values and institutions that are conducive to economic progress. These include the desire for material progress; incentives to improve efficiency; willingness to accept and correct the social and personal problems that are created by technological change; and the provision of a sound institutional framework within which progress can take place. Of all the institutions, none is more important than the schools that train the scientists, engineers, business managers and workmen who can create, innovate and effectuate progressive advances in the ways and means of production.

Thus, productivity advance is the product of a complex, cooperative endeavor on the part of various classes of persons. That is why I do not feel that it is very meaningful to pose the question: What are the relative contributions of labor and capital to increased productivity? In the last analysis, technological advance is attributable to the human factor: to various individuals and groups of individuals in different degree.

The shares of different groups in productivity gains will depend, as always, on market forces.

Some economists predict that productivity gains in the future will exceed those of the past. They point to momentous technological advances in the making, such as those in the fields of automation and atomic energy. Unprecedentedly large sums are being spent and will be spent for research and development. More young people than ever are in our institutions of higher education, and despite present shortages, the supply of engineers and scientists will grow. And, in the foreseeable future there does not appear to be any shortage of natural resources.

Past trends continue

These are all good reasons for believing that productivity will continue to increase. But they are not enough to predict a significant acceleration in the rate of advance in total productivity. All of the factors mentioned represent a continuation of past trends. The educational level of members of the labor force has been rising for a long time. The proportion of the labor force composed of scientists and engineers has increased from one or two per thousand in 1890 to twelve per thousand in 1950. Research and development outlays have also increased steadily as a percentage of national income.

As for the important new technological developments, we have had many such breakthroughs in the past. It has been the succession of revolutionary inventions and innovations, and the far more numerous improvements and refinements, that have made possible the continuous productivity advance of modern times. We have only to point to electric power, tractors, diesel engines or business machines to see the terrific impact of the innovation of the past. And no matter how important the technological developments, it takes time to incorporate them into the productive apparatus. Management has to make decisions, train personnel, raise capital. It may take years before most of the firms in an industry have followed the leaders.

The optimists also cite the fact that output per man hour since World War II has been greater than in the interwar period. But

in 1947, total productivity was below the long-run trend, due partly to the restrictions on new investment in nondefense industries during the war. Between 1947 and 1950, total productivity grew much faster than in the past, but from 1950 to 1955 productivity growth was back in line with the long-run trend.

Even so, output per manhour has grown faster than its trend rate, including the 1950-55 period when the advance averaged about 3 per cent a year in the private economy. As long as we can maintain relatively full employment, and the high levels of capital accumulation associated with high production and income, output per manhour may well continue to rise at the accelerated average rate of 3 per cent a year. This high rate of productivity advance is a basic index of the underlying health and creative dynamism of our type of economy. ■



Shot In The Arm For Production

SOMEBODY HAS figured out that the coffee break adds up to about two or three weeks' extra "vacation" in a year for each office and factory worker indulging in this new American custom. But the statistics also show that the coffee break has hidden advantages. In a survey of 1,160 companies, 82 per cent claimed it reduced job fatigue; 75 per cent said it improved morale; and 62 per cent even reported an increase in production. No one asked whether it was the coffee or the break that produced these advantages.



A New Elite in Russia

by Arthur S. Barron

In the course of power shifts in the Soviet Union, industrial managers have gained new prestige and added authority

IN THE NEAR FUTURE, Soviet managers are likely to show up in this country for a close look at American plants. Similarly, American managers may be taking a look at Soviet enterprises. This is in keeping with the pattern of cultural exchange which now seems to mark a new phase in the cold war. Both East and West seem eager for such exchange, and it is certain that representatives of Soviet and American management will play prominent roles in it.

In the process of interchange, Soviet managers and their American counterparts will discover that there is much similarity in their jobs. Certain features of management are common to any industrialized society, and significant areas of management function overlap in both the Soviet and American economies. In certain respects, the director of a Detroit

plant would feel at home running things at the Gorki auto works in Moscow. In other respects, of course, he would feel painfully out of place.

The greatest difference between Soviet and American management lies in the area of production decision-making. In this country managers have virtual autonomy on most matters concerning production. In the Soviet Union, however, the situation is dramatically reversed. There, no significant production decisions are made by management independently. All are made by the state. All production directives are embodied in the state plan which flows from the top political managers down.

The plan, issued by the Presidium of the Supreme Soviet, prescribes for the manager such matters as the quantity, quality and type of production he will engage

in, the amount of capital at his disposal, the expenditures he will make for plant and equipment, the number of workers he will employ and their wages, the amount and price of the raw material he will use, and the like.

Similarly, another area of decision-making wholly denied the Soviet manager is distribution and merchandising. The Soviet executive has little to say in these matters. A tractor manufacturer, for example, is told where his tractors will be sent, the dates of their delivery and their price.

Not all differences between Soviet and American management, however, result in greater freedom of decision for the latter. In some instances Soviet managers have greater autonomy. This is particularly true with respect to the labor force. In the U. S., labor plays a prominent role in the decision-making process of the industrial enterprise. Through collective bargaining, labor participates in the formulation of policy on such basic issues as pay, production tempo, benefits, working conditions and employee relations. Today, even such issues as company relocation often cannot be settled without prior consultation with the union.

In Russia, however, the mana-

ger exerts far greater control over labor. The Soviet executive can fire at will. He can transfer, upgrade and discipline his work force as he sees fit. In these matters he answers to no one. This power, of course, is based on the absence of a genuine trade union movement in the USSR. The state-controlled union's main job is to see that production quotas specified in the plan are fulfilled, rather than to bargain with management in the interest of the worker. In essence, Soviet labor unions are the "time and motion" departments of Soviet firms. Union leaders are clearly subordinate to management, and this provides the Soviet executive with greater latitude than his American counterpart.

Rewards for success

In certain respects, the rewards for success on the management job also seem to be somewhat greater in the USSR than in this country, relatively speaking. The spread in income between a Soviet manager and a skilled worker is about thirty times as much as the similar differential in this country. Only top Communist party bureaucrats and unusually successful members of the Soviet intelligentsia earn more than Soviet managers.

Again, members of Soviet management receive a number of "fringe-benefits" not ordinarily

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given to their American counterparts. Soviet managers receive from the state a chauffeured automobile for themselves and family, servants, food, a summer "dasha" (villa), a rent-free city apartment, and the like. For managers who exceed their production quotas, special state bonuses are available. On their death, their families are provided with pensions at state expense.

The penalties for failure, however, are far more severe in the Soviet Union. Failure very often means imprisonment, and sometimes even death. At the least, unsuccessful managers are stripped of all rank and authority and are publicly humiliated. No counterpart of this exists, of course, in the West. Here, failure on the job is a personal matter; in the Soviet Union it is a political crime.

The "company man"

The matter of company loyalty is another major differentiating factor. American managers develop intense loyalties to their own firms. The expression "company man" sums up the deep sense of identification felt by American managers with their enterprises. In the Soviet Union, however, precisely the opposite is the case. By every means at its disposal, the Soviet state seeks to discourage managerial identification with the firm. The manager must place

state needs above those of his own plant. If the state demands the shutdown of an operation in the plant and the workers moved elsewhere, the manager must comply. The sense of belonging which characterizes the attitudes of American managers toward their companies is a job satisfaction which Soviet managers are not permitted to experience.

Significance of profit

Despite these differences, however, many similarities exist between the two management groups. Among both Soviet and American managers, profit serves as a major work motivation. The significance of profit in the thinking of Western management is readily appreciated. That it figures prominently in Soviet thinking is less well understood.

Profit in the Soviet economy is of two types: planned and unplanned. The former is merely the planned value of sales minus planned costs of production. The latter is any excess over planned profit which is obtained through cost-cutting or extra production. The desire of Soviet managers to show an unplanned profit is readily understood, since they are allowed to keep a substantial proportion of it for themselves. The 20-odd per cent of unplanned profit which the Soviet manager can retain is a significant incentive.

Soviet and American managers are also similar in the degree of initiative and ingenuity which they must exercise in their tasks. It is a mistake to assume that the existence of a detailed economic plan stifles all management initiative in the USSR. In certain respects, it has enhanced it. To remain successful, Soviet executives must display considerable ingenuity to fulfill the plan.

This is because the plan is an imperfect instrument. It clearly defines the goals for the executive, but it fails to insure the means to meet these goals. The plan may specify that the director of a given plant employ so many workers, for example, but it may be up to the manager to find these workers. Again, the plan may stipulate that he receive so many tons of raw material, but the producer may not be able to deliver on time and the director must obtain it himself. Or the plan may specify the production of a certain quantity of goods, but this may be suddenly revised upwards because of shifts in political or military needs.

Scarcities and bottlenecks in the economy, gaps in statistical knowledge and planning know-how, and rapid shifts in political requirements (as when Malenkov who favored light industry was deposed by Khrushchev who favored heavy industry) make it virtually im-

possible for the plan to anticipate and provide for all managerial actions. Instead, the manager must devise methods and procedures of his own.

The Soviet manager, for example, has to maneuver shrewdly to obtain an adequate labor supply. Recently, *Pravda* referred to a manager who attracted workers to his plant by furnishing the cafeteria with extra potatoes. These he managed to obtain from a collective farm in exchange for repair of the farm's machinery.

To obtain raw materials, some Soviet managers utilize the services of the so-called "pushers" who trade on the black market for the necessary goods. Not long ago, for example, a news story described a pusher who was labeling part of his firm's metallurgical products as scrap and bartering it as raw material with other firms in exchange for goods his own company needed. Again, there was the case of the manager who was caught directing structural material, allocated by the plan for repairs, into actual production. Initiative like this, though it is extralegal, keeps the system going.

Similar training programs

Soviet and American managers are also increasingly similar in professional background and skills. Like their counterparts here, Soviet managers benefit

from management training centers which emphasize engineering and technological training. Considerable attention is being devoted today to the mechanization and automation of Soviet industry, and the Soviet state is training managers in the new technical and professional skills. As in this country, the proportion of college-trained managers in the Soviet Union is rapidly increasing. Soviet managers are also showing a keen interest in Western techniques and display a readiness to borrow what is technologically useful from the West.

There is also evidence that Soviet executives are developing a managerial ideology, one which may temper somewhat traditional Communist ideology. Soviet society in the past has been characterized by the existence of three major power elites: the party, the secret police and the army. Recently, the power of the secret police was drastically curtailed and the position of the army correspondingly improved. In the course of these shifts a new elite emerged. This is the managerial elite. It is comprised of Soviet managers,

as well as of the leading members of Soviet technology, of the sciences and the arts.

The ideology of this group is conservative. It prizes the values of technical efficiency, stability, profitability and prosperity. It is opposed to military adventures, instability of government and terror. It demands (and is apparently receiving) greater freedom from Communist party control, greater legality in Soviet life, and greater autonomy in economic affairs.

Whether the new managerial group will by its efforts modify Soviet society remains to be seen. One thing is certain, however. The USSR has reached a new stage in its development and has produced a management group comparable in background, skill and values to management groups in other advanced industrial nations. Unquestionably, the Soviet government will have to provide the kind of social environment which will enable the new managerial elite to do its job properly. If it does not, it may not achieve the greater economic power to which it aspires. ■

Soviet Piece Rate Headache

THE RUSSIAN piece rate system which gave premium payments to workers who established record breaking work norms created many a headache for Soviet factory managers. A handbook on wages in the engineering industry, covering only six branches, had no less than 1,000 pages. Simpler handbooks are now being prepared.

E*conomics in A***ction**

another record year

The economy is moving along toward what looks like another record year. Steel furnaces are going at capacity, and unfilled back orders, plus the expected demand for steel by the auto manufacturers this fall, seem to assure capacity operation for many months to come. And total production of automobiles in the fourth quarter, if announced schedules are fulfilled, may run as high as 1.7 million units, which will make the automobile industry a dynamic factor in the economy by year's end.

high-level activity

Other indications of continued high-level activity are easy to find. Retail sales are still going up, reaching in August a record 16.3 billion dollars, seasonally adjusted, up one per cent since July and 4.5 per cent since August 1955. Personal income, despite the steel strike and related layoffs in mining and transportation, was still at an annual rate of 324.5 billion dollars in July, as compared with 309.2 billions in July last year. Capital spending in the fourth quarter was expected to be at an annual rate of 38 billion dollars, bringing the estimate for the year as a whole to 35.3 billions, or 23 per cent more than the record 28.7 billions in 1955.

inflationary pressures

Watching the economy carefully, the Federal Reserve continued its "tight money" policy, counting on a scarcer credit supply to curb inflationary pressures that could develop into serious trouble. Following quickly on the heels of the Federal Reserve's raising of the discount rate to 3 per cent in August, banks across the country began charging higher interest rates for business loans. This has caused hardships here and there: to supply enough credit for regular

customers, bankers had to turn down some new and small borrowers. But it was generally agreed that the Federal Reserve was justified in its belief that inflation was the real danger.

**higher
prices**

The upward pressures causing concern were reflected, for example, in higher prices at both wholesale and retail. The August rise in wholesale prices of another 0.5 per cent, bringing the total level to 114.6 per cent of the 1947-1949 average, was accounted for mostly by higher steel prices. Although it will be another couple of months before the full effect will be felt at the retail level, people are already paying more for just about everything. The Consumer Price Index inched up another 0.7 per cent, reaching 117 in July, a record high (1947-1949=100). And although installment debt rose only 213 million dollars in July, less than half the 562 millions it went to in July of a year ago, FRB economists felt sales of the 1957 automobiles could drive consumer credit to new peaks.

**employ-
ment
figures**

There was also the fact of close-to-full employment. The August employment figures, up by 100,000, set a new record of 66.8 million; unemployment fell 600,000 to 2.2 million. The August total of 66.8 million civilian jobholders along with the 66.7 million and 66.5 million in the two previous months represent the highest employment levels in the country's history. Underlying this year's record employment is the extraordinary two million increase in the labor force during 1955, more than can be accounted for by population growth. The rise was attributed to a marked increase in the number of women, especially married women, going back to work, and more workers among teen-age and older people. The fact that these new workers were drawn into the labor market emphasizes the expansive economic situation and increased availability of suitable jobs at attractive wages, notably in government.

**utilizing
manpower**

At the same time, unemployment has remained relatively stable, evidence of the high rate at which the economy has been utilizing manpower. Unemployment amounted to about 4 per cent of the labor force both in early 1947 (referred to as a base period) and in early 1956, and in no intervening year averaged more than 5.5 per cent. In August people actively looking for work accounted for only a little more than 3 per cent of the labor force.

* * *

**caught in
the middle**

WASHINGTON—Secretary of State Dulles' handling of the Suez crisis, as of this writing, deserves a great deal more credit than it has received. What appeared to be contradictions in the position held by the United States was the result of well-thought-out moves. Indeed, as the Secretary of State himself had to admit finally, the U. S. wished to avoid any move that might be construed as lending support to colonialism, but we did not want to assume a posture of opposition to the desires of our British and French allies.

**calculated
risk**

That we stood to lose some prestige with both the Anglo-French and the Arab-Asian blocs because of our indefinite position was a calculated risk. But that position led to two very important developments: (1) it discouraged a resort to force; and (2) it pushed the contending parties into protracted negotiations. Mr. Dulles might yet win his greatest diplomatic victory.

**policy
reappraisal**

Pressures on the State Department, however, are unceasing. There is a good chance that the very existence of Israel will again be in jeopardy before the end of the year. The U. S. will be caught between a desire to see Israel survive and the wish to keep this desire from being interpreted as definitely anti-Arab. U. S. policy is neither anti-Arab nor anti-Israeli. Therefore, the Washington strategy is to

shift the huge weight of American influence from one side to the other so that neither side can push too far and commit the whole Middle East to another blood bath. Once again we shall be blamed for inconsistencies, but perhaps through these very inconsistencies another war can be avoided.

**freedom
of action**

The British and French are considerably vexed.

The former talk about reorienting their trade relations—away from the U. S. and more toward Europe; the French insist that they will preserve their freedom of action regardless of American wishes and U. N. decisions. The realities of twentieth century economic developments have created cruel problems for British society. The end of nineteenth century sources of power and income from overseas investments threatens the very existence of a small but influential element in French society. Such changes do not affect the United States. This is the essence of our problem: how to help our allies with their almost insoluble difficulties while not committing ourselves to anachronistic policies which might jeopardize our own future.

**hot
potato**

The hottest diplomatic potato that will be public-

ly debated when Suez ceases to monopolize the headlines will be the matter of what to do about growing Red Chinese trade with Southeast Asia and Japan. The new administration, whether it be Republican or Democratic, is sure to develop a large headache over this one. The outcry of U. S. textile and other groups against Japanese imports compounds this problem.

**election
anomaly**

There is a feeling that Adlai Stevenson has jeopardized his chances with the independent voters by becoming a more "political" campaigner than he was in 1952. His slugging tactics may lose him more votes than they gain. It might prove to be one of the anomalies of the election that a "fighting" Stevenson will lose his bid for the Presidency but win for his party control of both houses of Congress. ■



Is an ancient craft that has evolved, through giant technological leaps, into a ten-billion-dollar-a-year industry

by Peter B. B. Andrews

I am the printing press . . . I sing the songs of the world, the oratories of history, the symphonies of all time . . . I am the voice of today, the herald of tomorrow . . .

WHEN THE American poet, Robert H. Davis, penned this paean of praise in 1911, the printing industry in the United States was taking a running broad jump into a new technological era. Today the industry is still in mid-air and there's no telling when it will come down.

The voracious reading habits of the American people, who consume millions of newspapers, magazines and books yearly, and the rising demands of a booming advertising business with requirements for

tailor-made brochures, catalogs and gimmicks impel the printing industry to maintain its forward thrust and impetus.

Since 1911, the industry has been applying advances in physics, chemistry, metallurgy and electrochemistry to revolutionize printing in its three major mediums: letterpress, offset and gravure. This dependence upon science has transformed the art of printing into an amazingly complex craft, with specialists in all its branches.

Under these scientific influences, the printing and publishing industry has propelled itself from a five-billion-dollar-a-year business ten years ago into a ten-billion-dollar-a-year industry today. This increase in revenue reflects the in-

dustry's growth. It is a continuing growth, developing faster among the larger printing houses in the country than the smaller ones, much like the pace of growth in other industries. The larger independent printing firms which hold long-term contracts to print most of the large, mass circulation magazines, mail order catalogs and directories produced in the nation, have been investing heavily in giant multicolor high-speed presses and new electronic equipment to control printing quality on the presses.

This equipment is necessary to produce the 80- to 192-page magazines printed and circulated by the millions each week and each month. Every new corner-cutting device in typesetting, photo engraving, making the pages ready for the press and in actual printing is seized and utilized by these giant firms. They are driven by the power of the perishable word.

Production-line printing

The same power pushes the nation's daily papers. Every morning and afternoon fifty-six million copies of newspapers are circulated throughout the nation, one for every three people. To get these papers to the newsstands and into homes before the news becomes stale, publishers have increased the capacity of their presses by adding units that print

eight pages at a time. *The New York Times*, for example, has 107 press units linked up, one to another, in its building. These units can produce 68,000 copies of a 160-page edition every hour, or 136,000 copies of an 80-page issue in the same time.

The Times, like other newspapers, however, keeps seeking new ways to speed up its printing process. At the Republican convention it unveiled a facsimile process, developed in its research laboratories, that put an abbreviated, electronically transmitted edition of the *Times* in the hands of delegates every morning.

The national magazines—the 281 largest have a total circulation of 180 million per issue, weekly or monthly—also support and maintain research laboratories that continually develop new methods and equipment.

But not every printer is keeping up with this advance guard. Many of the 15,000 printing firms of the country are laboring with such old machinery and under such outmoded methods as to make most people think the industry is still like something out of Mark Twain's stories of country printing shops.

Actually, for some of the printing shops in smaller towns and

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cities around the country, this picture would be correct. They exist because there is a need in all localities for tailor-made printing, created to customer specifications.

Economic disadvantages

But most of these shops, while containing old equipment, work with careful exactitude to make certain that their old equipment is nursed into producing another good job. This old equipment grinds out 800 to 1,000 sheets an hour, three or four times less than can be turned out by the newer presses. The economic disadvantages of the older equipment to the small printer are obvious: his costs are too high to enable him to compete effectively against shops with the faster, newer equipment. Unless he can modernize, he is eventually forced out of business. As a result, particularly in New York City, which is considered the printing capital of the world, the owners of older shops have been throwing in the sponge, taking jobs as salesmen with other printing firms, or retiring.

Other printers, recognizing the handwriting on the wall, have replaced their older equipment. The last ten years of prosperity in the printing industry have made it possible for them to amass enough capital to invest in new equipment. Printing equipment manufacturers, adopting mass produc-

tion methods to produce complicated presses and other machines at much less cost than previous equipment which often took two to three years to build and install, made a determined bid for the business of these small printers.

For the most part, printers must seek to improve the efficiency of their machinery because of the high labor costs in the industry, the highest in the nation's major industries. Strong craft unions, among the oldest in the country, maintain the high wage scale and an apprenticeship system that effectively prevents overcrowding in the industry and keeps a surplus of labor to a minimum. The unions maintain their strength by a unique educational program that requires an apprentice to study and understand the history of the union and its objectives while learning the craft.

Intensive sub-contracting

The high labor costs have also contributed to the establishment of an intensive system of sub-contracting in the industry. Except for the larger printing concerns, there are very few integrated plants in which all the work necessary to complete a piece of printing is performed under one roof. Most printers farm their work out: to a typesetter who has from one to a battery of linotype or monotype machines; to an en-

graver or offset platemaker with his specialized skills and expensive equipment; to a binder with folding, punching and stitching machines.

This system of sub-contracting adds to the cost of the finished product, for, like any system in which a number of middlemen are between the producer and the consumer, each middleman tacks on a profit for his services. Integrated plants, their wage rates the same as rates in non-integrated plants, can offer lower prices because their prices are not inflated by middlemen's profits.

Costs on the rise

But printing costs, by and large, have been rising rapidly in the last few years, no matter where the printing is produced. Behind these rising costs have been increases in the price of paper, ink, metal, machinery and labor. Large users of printed material have, because of rising costs, been forced to seek cheaper means of reproducing the forms, catalogs, brochures and myriads of other printed matter.

The last few years have seen a remarkable advance in the use of less-expensive methods of reproduction, such as table-top photographic copying machines and small presses that can be operated by any office worker after a few hours of instruction. Printers are

becoming concerned about this new threat to their bailiwick and profits, and are redoubling their efforts to keep costs competitive.

Generally, however, the future of the printing industry seems excellent. The rising demand for color work should expand the operating scope of the industry, and the trend toward high-speed presses and time-saving methods of typesetting, engraving and binding may eventually lead to lower costs.

Another sign of continued prosperity for the industry is its close relationship with advertising and general social trends. Total advertising expenditures projected for 1957 are over ten billion dollars, compared with 7.2 billion dollars in 1952. But more important is the fact that Man's search for knowledge and understanding has reached a new high level. There are far more grammar school, high school and college graduates than ever before in the nation's history, and the number rises yearly. Education does not stop with a diploma, and the printed word, in magazines, newspapers and books, continues the process.

Printing, which a thousand years ago enabled Man to pass his knowledge on, today is being driven by Mankind to spread the knowledge further and faster. It is heralding the progress of tomorrow. ■

Two heavyweights square off in the courts, the press and state legislatures in a battle for the huge freight market

The Great Freight Fight

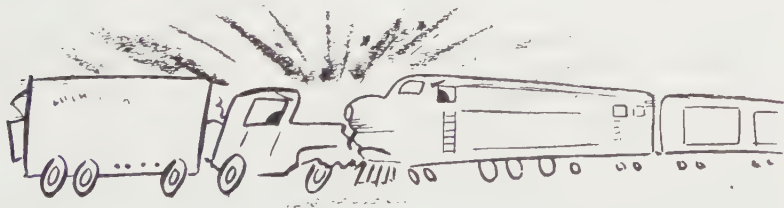
by Morrison Collady

THE INTERNECINE warfare between railroad and trucking groups is not a bloody affair, but it certainly is a messy one. The spectacle of two huge, grown-up industries wrestling and hair-pulling in courts, state legislatures and newspapers and magazines is enough to make every thoughtful person shudder and turn away.

It is not pleasant to watch a street fight, and this one, to anybody who has been patient enough to stand on the sidelines for a couple of years, has been especially wearing. Not only have the two participants moved the spectators to indifference, but they have worn themselves down to absurd Colonel Blimps.

Intense competition between these two branches of transportation for the lucrative and booming freight-carrying business is at the heart of the struggle. But, like any other war, the principal reason is cloaked in high sounding and often hypocritical phraseology. Both are protecting the public interest. Both are defending the rights of taxpayers and consumers. Actually, both may be doing some protecting and defending, but in the main it is their own interests they are looking after.

The crux of the controversy is the fact that the railroads own their own rights-of-way, maintain them at their own expense and pay taxes on them; the trucks use



the highways built and maintained by public authorities. The railroads insist that this is a form of subsidy and is unfair to them and to the general public. The trucking companies maintain that they pay a great part of the users' fees collected on highways, and thus pay for some construction and upkeep of the roads. The railroads counter that trucks do not pay enough. Truckers bring up a roundhouse punch and complain that the railroads would put them out of business by increasing their costs. And so it goes, on and on, back and forth.

Armistice drawn up

The fact of the matter is that the nation is dependent upon both forms of transportation to move the mountains of raw materials to factories and the mounds of manufactured goods to consumers. Both forms of transportation are dependent upon each other; each complements the other.

It was with this understanding that the railroads and truckers drew up an armistice last spring.

Eastern railroads and the big interstate trucking lines operating east of the Mississippi organized a joint board to study common problems and reconcile their differences. The group called itself the Council of Eastern Rail and Truck Common Carriers. Its chairman, Walter J. Tuohy, president of the

Chesapeake and Ohio Railroad, announced that "cooperation between what are essentially two arms of one great industry is vital to the American public. It is essential to meet the needs of a prosperous nation and insure adequate national safety."

One of the first things that happened as a result of the Council's study was the withdrawal by the railroads of their opposition to a bill in the Pennsylvania Legislature which would increase the authorized weights of trucks permitted on the state's highways from 45,000 to 60,000 pounds. The railroads had no sooner removed their opposition than the bill was adopted by the Legislature and signed into law.

Such an example of cooperation pleased the truckers. Five years earlier, when there had been anything but cooperation, they had become angered by the defeat of a similar bill and sued thirty-one eastern railroads and a public relations firm for 250 million dollars. They charged that the railroads had created "an illegal conspiracy to monopolize freight transportation and conduct a vicious, corrupt and fraudulent campaign against the trucking industry."

The railroads expected the truckers to drop their suit after

Morrison Colladay has contributed many fine articles to CHALLENGE dealing with transportation.

the formation of the Council of Carriers, but the truckers, apparently feeling that they had their rivals pinned to the ground, wanted them to cry "Uncle!" They sought to exact a stipulation in which the railroads would be called upon to admit the accusations of "corrupt and fraudulent" practices and swear that the practices would be discontinued. And they wanted the railroads to foot the legal bills.

The railroads balked; the "cooperation between two arms of one great industry" came to an abrupt halt. The two arms began flailing each other again. A countersuit for 120 million dollars in damages was filed against the truckers by the railroads. They claimed that "the trucking interests have conspired since 1945 to restrict trade and commerce in violation of the Sherman Anti-Trust Act."

Outcome is uncertain

Peculiarly, both suits claimed violations of federal law; yet the Justice Department has not considered the charges serious enough to warrant prosecution. The Interstate Commerce Commission, which sets the rates railroads and truckers may charge and which attempts to settle other disputes

in interstate commerce, has not intervened in the imbroglio.

A new round in the battle was to begin in October, in Philadelphia's Federal District Court, when Judge Thomas J. Clary begins hearings on both multi-million-dollar suits. The outcome, of course, is uncertain, but the trial itself may force the railroads and truckers to realize that "cooperation" is much better than airing dirty linen in public.

If this cooperation is not achieved, the battle will become an even worse cat and dog fight, spreading to all state legislatures and to Congress in the next few years, embroiling them in wild charges and countercharges, rather than in reasoned deliberation. And reason should prevail, for what happens to our highways and to freight costs is a matter of public concern and public consideration, not merely the concern of the railroads and truckers.

The railroads and truckers would do better to take the millions of dollars they are now spending on legal fees, public relations campaigns, lobbying activities and newspaper and magazine advertising and put them into improving their services and equipment. ■



Trucks hauled 9.1 percent, and railroads 67.3 percent, of the intercity freight ton-miles in 1946. In 1954, the figures were 19.1 and 49.5 per cent.

Leroy E. Burney, M.D.

Surgeon General,
Public Health Service,
Dept. of Health, Education and Welfare



Our Most Precious Resource: Health

Q *Dr. Burney, as one of the best informed men about the general health of the United States, I suppose you are used to this particular question: Exactly how healthy are we as a nation?*

A I believe the facts will bear me out when I say that we are the healthiest nation in the world at the present time. But of course we should not be satisfied with the present condition, and we must try to improve upon it in every way possible.

Q *Can you measure improvement by an increase in life expectancy?*

A One has to be careful and do some qualifying when using life expectancy figures. Life expectancy at birth has increased approximately twenty years since 1900. In other words, a baby born today has a twenty-year longer life expectancy than a baby born in 1900. That does not mean, however, that you and I at ages forty or fifty enjoy a comparable increase in our life expectancy. At age fifty, for example, there has been only an increase of three years in life expectancy. Those of us who are over fifty years old have only a three-year longer life expectancy than our great-grandfathers when they reached fifty back in 1900.

Q *How much comfort can we derive from our successes in combating contagious diseases?*

A It is true that we have under control many of the infectious diseases. Indeed, the increase in life expectancy at birth is largely due to this factor of controlling the infectious diseases of childhood. But many of these are not yet completely conquered, and we still have serious outbreaks of diphtheria, typhoid and other contagious diseases. These require constant vigilance. Besides, as we control or conquer one disease, we find others springing up. We are running into new virus diseases. Encephalitis, or sleeping sickness, for example, is now turning up both in the New England states and in the southwestern part of the country. So the problem of contagious diseases is still with us.

Q *In other words, we can still expect many health problems by 1975?*

A I am afraid so. I question very seriously whether we shall have health conditions under control by 1975. In the first place, the migration of our population, the greater industrialization and urbanization of our country, the use of new chemicals and similar products will create new health problems.

Q *What are those problems?*

A Air pollution is one. Water pollution and the disposal of industrial waste are others. The impending atomic age is already creating all types of new problems, and these will be even more pressing twenty years from now. And, of course, in spite of all the medical research that is going on, it is unlikely that we shall have all the answers to the problems of cancer, heart disease and arthritis, to name just a few. Finally, the United States cannot be considered an isolated entity. Rapid transportation facilities from one country to another and the large exchanges in population mean that as long as there are serious health problems in other areas, they are of definite concern to us. Even if we were free of all of our own health problems, international health would still be of direct concern to us.

Q *I suppose that one of the problems we are going to be confronted with will be the growing numbers of older people with special health problems of their own.*

A Yes. We are told by the statisticians that by 1975 we shall have

approximately twenty-one million people over sixty-five years of age. That will be a considerable segment of the population — about 12 per cent as compared to 9 per cent at present.

Q *What are the health problems of this group?*

A The health of people in the older age groups is often directly related to the health conditions which they have experienced in their earlier life. Scarlet fever in childhood, for example, may produce arthritis or kidney disease in later life. Therefore, we must improve conditions and prevent health problems in the younger age groups so that there will be less likelihood of serious illness or disability in later life. Once an individual enters into the older age group and does have a health problem, he must be made aware of what is the matter with him so that his physician may prevent the further progress of the disease or disabling condition.

The matter of home nursing and medical-social counseling

Q *Is the health problem of the aged a purely medical one?*

A No. The health problems of the aged are closely related to questions of recreation, training, housing, economic security, family life and many other social and economic conditions. It is rather difficult to talk about health without touching on these problems. There is more to taking care of the health of the aged than the specific medical care that may be given them. There is a matter of home nursing services as well as the medical-social counseling which is extremely helpful and needed by these older age groups. There is a problem of bringing some of the services provided by the hospitals to aged persons in their homes.

Q *Who should be responsible for taking care of these problems?*

A I think the major responsibility must be assumed in the local community.

Q *Well, how should these communities go about handling this problem?*

A Let's start with what they should not do. I think we tend to do things for the aged without seriously considering the actual needs.

These needs will vary with the individuals concerned. I remember someone telling me of a group which wanted to build a housing settlement in a rural southern community for some retired workers who had been accustomed to living in a large metropolitan area. They found out that these people did not want to leave this city which was home to them. Also, if we are going to make older people productive members of society with a feeling of individual dignity and belonging, we must find ways of retraining them so that they can continue to do some work within the capacities of their physical and mental health.

"Families no longer pull together the way they once did"

Q *Does the family have a special responsibility to help their old folks?*

A I think so. We often hear that families no longer pull together the way they once did. No doubt our changing living habits partly explain this. Few of us live in large homes. Many live in apartments and, in numerous instances, it is just impossible to have the older persons live with the young son, or daughter and their family. But I think it is often a mistake to get older people to live together in large settlements where they have no contact with younger groups. I remember a minister of ours who said that if you want to stay young, you must live with young people, and if you want to die young, you must try to keep up with them. I think there is a good deal of truth in this. At the same time, we must not give our old people the feeling that they are dependent on any one.

Q *Our old people will probably not be the only ones confronted with health problems. In general, does our type of society with its stress upon personal achievement, with its tense competitiveness and with its emphasis upon work create psychological and physical stresses which adversely affect our health?*

A I don't think there is any question but that the stresses of living today are much more severe than they were in days gone by. Just driving to work through crowded traffic in the morning is enough to start a person off with a little handicap. Undoubtedly we shall have to make more studies on this to understand the full impact of the

various pressures of an aggressive society upon the individual. We'll have to start early in life with the youngsters so that they are prepared to meet and to adjust to such a society.

Q There has been much concern expressed recently about the alleged softness of American youth as revealed in army physical examinations and elsewhere. Do you think this is a health problem?

A I believe that everyone needs some exercise — both for the physical results that accrue and for the mental relaxation that follows physical exercise. I don't go along with the idea that by sitting in a rocking chair one can live longer. Some people do, of course, but they probably would have lived longer anyway.

“More emphasis should be placed on intramural activities”

Q What do you suggest be done to instill the physical fitness habit?

A I feel that more emphasis should be placed on providing opportunities for physical fitness programs for our youth. Also, I think that all too often the opportunity for athletic activities is limited to the few who are particularly adept at it. More emphasis should be placed on intramural activities so that all youngsters can take a part and acquire some skill in these activities. Not only will such exercise help them to develop strong bodies, but it will carry over into their later adult life and contribute to healthy living habits.

Q In this connection, I believe you attended the conference called by President Eisenhower to discuss the question of physical fitness.

A I did. I was very much impressed with the real interest and dedication of these people to the problem of improving the physical fitness of youth. Up to now we have been a little lax in providing youngsters with adequate opportunities for play. Our cities, for example, do not have adequate areas for playground activities and sports. These and other problems were discussed at the conference.

Q Up to now we've talked about the various health problems which we as a nation face. Now as Surgeon General of the United States, and as a man who has been with the Public Health Service for a long time, I wonder whether you could give us your philosophy about what the role of the government should be in this field?

A Well, I should like to say right off that I believe, and believe very strongly, that the ultimate action in health programs must be the responsibility of the local communities. That is why I think it is so important that the people of the community have a better understanding of just what their health needs are. We also need greater participation by more people in the community in planning to meet those health needs.

Q *What is the function of the national government?*

A I feel that the national government has a responsibility in several areas because, after all, we are a total nation, and our strength is not that of a few states but of all the states. We want to improve the health of the whole nation, not of just a few areas. So I think it is our responsibility to provide nationwide leadership to the states and territories in public health activities — both directly and through a research grant program. We should also help in the development of new methods and techniques to apply the results of our research.

The responsibility of the national government

Q *Has this approach been successful?*

A How successful such assistance can be has been amply demonstrated by our venereal disease and tuberculosis programs. Our photo-fluoroscopic technique with chest X-rays, for example, was developed by the Public Health Service. The national government undertakes such campaigns because it is working for the whole country, whereas it would be a little difficult and uneconomical for a single state or community to try to do it. We're doing similar work now in cancer, in the development of cytological or cellular examination of smears for the early detection of cancer. I think we have a responsibility in this area, although we should not be the only ones doing it. And finally, I fully agree that the national government has some responsibility, although not sole responsibility, to participate financially in helping to provide the kind of health services we need. But here again, federal activity should be undertaken on a partnership, not a caretaker basis.

Q *Thank you, Dr. Burney. ■*



Everyday Economics

THE RECENT Andrea Doria-Stockholm disaster highlighted the danger of traveling with inadequate insurance. Until long court procedures establish liability for the collision, neither shipping line will assume responsibility for the losses involved. Thus, victims may wait several years until their claims are settled. To avoid such delays, you might consider a trip insurance policy when you plan to travel. For a \$29 premium, you can get coverage that includes \$25,000 for accidental death or dismemberment, \$2,500 for medical expenses and \$2,000 baggage insurance for a 31-day trip.

Cooperative capitalism



HAVE YOU thought of organizing a group of friends into a small investor's club? The clubs, which have been growing phenomenally, usually are formed by 10 to 15 friends, golf or poker cronies,

plant employees, etc. Each person contributes a small amount—say, \$10—and takes a turn at studying companies the group wishes to consider as investment possibilities. Votes taken in monthly meetings decide how pooled funds will be spent and what to do with gains realized.

No stamp tax here



THE VALUE of the merchandise you get from grocery trading stamps is not considered income you must report for tax purposes. It is viewed as something you bought with that part of the price you paid for your purchases.

Warm housecoat



LIKE AN overcoat for humans during the cold months, an outside coat of paint helps keep houses warm and comfortable. If the outside of your house has not

been painted in five years, it deserves a coat before the cold and wintry weather sets in. Two coats will help both wood and masonry last even longer.

It's papa who pays



HERE'S what you can expect to pay for your youngster's wedding.

For a small church wedding and home reception for the immediate family: expenses for the bride, \$188; for the groom, \$50. For a "typical" wedding with 3 attendants, 150 guests and a church reception: bride's expenses, \$761; groom's, \$183. For a big wedding, country club reception and 300 guests: bride's expenses, \$3,000; groom's, \$500.

Pearls of wisdom



CULTURED pearls require coddling long after the oyster has cast off its responsibilities. Pearls should be worn as often as possible because body warmth enhances their luster. Since the alcoholic content in perfume is harmful to the pearls' delicate surface, it's wise to apply perfume before donning the jewels. And although pearls should be kept away from open flames, they reach full opalescence in sunlight. Further advice: have pearls restrung at least once a

year. To clean pearls, wipe them gently with a soft, damp cloth; do not immerse in water.

A new beneficiary



IF YOU have a baby, notify your insurance agent so that any necessary changes in beneficiary can be made. Many family policies are set up to pay benefits to the wife, if she is living at her husband's death, and to the children, if she is not. If the new arrival is the first one, your youngster may be left out if your policy had previously named some other beneficiary. If you already have children, make sure the contract covers the new baby.

Foreign money matters



YOU CAN save a lot of money by buying foreign currency before you leave on a trip abroad. Most countries regulate the value of their currencies at home and fix official rates. But in the U. S., currency rates are based on supply and demand and therefore reflect actual trading value. In Turkey, for example, \$1 buys 2.8 Turkish liras; in the U. S. the same \$1 will buy 8 liras. French francs and Spanish pesetas run some 12 per cent below official rates.—A. G.



by Murray Polner

It is dependent upon trade for its life
and faces economic collapse unless new markets can be found

IF THERE IS one area of agreement among Japan's disparate economic interests, it lies in the realm of foreign trade. Mitsubishi industrialists, Kabuto-cho—the Wall Street of Japan—brokers, Socialist labor leaders and politicians of all persuasions unite around the truism that Japan, like England, must trade in order to survive, let alone flourish.

In fact, certain unique conditions make it absolutely necessary for Japan to keep raising export revenues in order to feed and clothe her booming population and to continue industrializing. Any failure to come to grips with these peculiar circumstances is sure to have a decisive impact on Japan's future in the world.

What are these conditions that compel this comparatively small

island chain to buy and sell so feverishly? Generally they center about her most basic problem: too many people and not nearly enough cultivable land and natural resources. The four main islands of Japan are jammed with more than 90 million inhabitants—one million of whom are unemployed and 10 million casually employed. With approximately 17 per cent of all her soil arable, Japan's ratio of persons to arable soil is higher than that of any other nation. Despite painstaking attempts to wrest what they can from the land, Japanese farmers have never been able to overcome the national deficiency in food. Future scientific progress will help increase yields but probably never do more than merely keep abreast of Japan's ever-growing population.

This insufficiency can be remedied only by bringing in food from other countries. Since the end of the war, one-fifth of all the food the Japanese people eat has to be imported. Japan also is undernourished in natural resources. One hundred per cent of its raw cotton, bauxite, nickel, rubber and tin comes from abroad. So does 95 per cent of its raw wool, 90 per cent of its petroleum, 82 per cent its iron ore and 70 per cent of all the coking coal needed for her industrial machine. To pay for these materials Japan must rely upon revenue gathered from an enormous export program.

The problem of finding sufficient markets for her manufactured goods is fundamental in Japan's export program. Prior to World War II, Japan had things pretty much her own way within the Greater East Asia Co-Prosperity Sphere. Manchuria, Korea, China and Southeast Asia were all privileged sanctuaries for Japanese products and prime suppliers of raw materials for her military machine. War and defeat drastically changed the picture. Today, all these markets, except Southeast Asia, are lost. And in Southeast Asia, Japan's position

is precarious since Burma, Indonesia, Thailand and Indochina—the newly independent nations—are attempting to build their own industries. In addition, the West Germans, occasionally the British and even the Indians are successfully underselling Japan in the Middle and Far East, Africa and Latin America. At the same time, a recent Communist economic offensive into Southeast Asian markets has taken even more of that lucrative trade away from Japan.

Eyes on China

Many Japanese businessmen and politicians in Japan have been turning their eyes towards the Chinese mainland. They hope that Communist Chinese trade can be the panacea for all of Japan's economic ailments. But the Chinese, too, are constructing their own heavy and light industries and are no longer in any mood to accept Japan's traditional exports—cheap textiles, toys and knicknacks of all sorts—in exchange for their coal, timber, soybeans and oil. Peiping is demanding the sinews of military production, all on the American embargo list. Until and when they get it, they won't be too eager to help a former enemy broaden its trade program.

What, then, can the Japanese do to raise their exports and locate additional markets? They can, of

Murray Polner became interested in Japanese economic problems while stationed with the U. S. Army in Tokyo for thirteen months.

course, continue rebuilding their far-flung maritime fleet which was dispersed and ruined during World War II, and lower their transportation costs. The cost of raw materials purchased, say in Europe, sometimes rises more than 100 per cent when foreign freighter charges are added. The Japanese are attempting to modernize their decaying industrial plant—a goodly percentage of Japan's power plants, cement, machine tool and caustic soda industries have antiquated methods and machinery—and thereby reduce the price of manufactured goods which are today being undersold by competing countries.

Revival of cartels

They have also decided to revive the old *Zaibatsu*—the Mitsui, Mitsubishi and Sumitomo trading cartels—because the Tokyo government considers their good credit standing overseas, managerial efficiency, lengthy experience in world markets and respected name for honesty and quality vital in finding necessary new outlets in Africa, Asia and South America. And they are already trying to promote the acceptance of quality goods in Western Europe and the U. S.

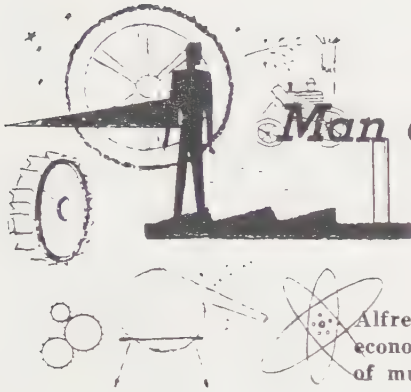
In the final analysis, the solutions proposed and any courses taken will depend in large part on the degree of sympathy, understanding and concrete assistance Japan receives from the rest of the world. Specifically, to widen Japanese trade and markets other countries would have to keep their tariffs at a minimum and discriminatory competition under close control.

Any time a nation threatens high tariffs or quotas as reprisal for the import of Japanese products, as, for instance, the cotton textile people in the United States and Canada urge, a collective shudder arises in the Tokyo and Osaka commercial centers. Some Japanese businessmen have even spoken of resurrecting their pre-war economic tactics if the pinch from abroad ever gets uncomfortably tight. During those years inferior quality goods, ludicrously underpriced in defiance of general world levels, were “dumped” by government-supported traders.

Such threats are moves of desperation brought on by the knowledge of Japanese businessmen and government officials that, unless the two-way street of trade is broadened, Japan's entire economy will collapse. ■

Vital Japanese Statistics

JAPAN CONSISTS of four main islands: Honshu, the mainland, with an area of 88,942 square miles; Hokkaido, 30,303; Kyushu, 15,712; and Shikoku, 7,248. Tokyo, the Japanese capital, is located on Honshu.



Man and the Economy

NO. XVIII

Alfred Marshall's work, the last attempt at economic synthesis, is still at the root of much contemporary economic thought

(That part of economic doctrine, which alone can claim universality, has no dogmas. It is not a body of concrete truth, but an engine for the discovery of concrete truth, similar to, say, the theory of mechanics.)

—ALFRED MARSHALL, 1842-1924

ALFRED MARSHALL was the most influential, the most widely read and the most admired economist between John Stuart Mill and John Maynard Keynes. His great book, *Principles of Economics*, published sixty-six years ago, is still usable as a textbook, and still productive of theoretical debate among economists.

However, there is a paradox in this estimate. Marshall thought of economics as an opportunity to do good. As a student at Cambridge, he approached economics largely through its connection

with ethics. Although he was an excellent mathematician, Marshall steadfastly subordinated this talent because he feared that its exercise would narrow his audience and frighten away businessmen. As a means, what concerned him above all else was education. As an end, his eyes rested always on the "noble life."

And yet, what economists have borrowed from Marshall has not been his ethical preoccupation. In recent times leading economists have tended instead to emphasize ethical neutrality and to concentrate on perfecting the technical tools of economic analysis. No one added more to these tools than Marshall, and probably no one would be more unhappy to see them divorced from their ethical context.

What are Marshall's contributions to economic analysis? His

major achievement was organizational. He combined two major strands of existing economics—Ricardo and Mill's labor theory of value and Jevons' explanation of value as produced by the utility of an object to its consumer—into one smoothly presented and largely consistent theory. Ricardo and Mill had argued that the value of an article tended to reflect the number of hours needed to produce it. In this explanation, different market prices indicated varying quantities of labor employed in producing different commodities. Thus, their analysis centered upon the *supply* of the factors of production.

Jevons on "demand"

As an earlier article on the Marginalists suggested, Jevons looked on the other side of the coin. According to him, *demand*, not supply, determined value. And utility determined demand. Hence market prices reflected the marginal utility of commodities—that is, the price charged could be no higher than would just move the buyer of the last item to make his purchase. Therefore, different prices resulted from the varying relative satisfactions (utilities) which consumers derived from various items they bought. Supply affected price only insofar as its limitations increased utility and thus raised price, but demand was

the central element. As a marginal utility theorist put it, men dive for pearls because they are valuable; pearls are not valuable because men dive for them.

Marshall demonstrated that a proper theory of value or price embraced both labor and utility. His explanation permits concise summary. Start with labor. Even if at its beginning work is pleasant, the longer we work the more painful does the additional effort become. Or, in the language of the theory, the marginal disutility of labor rises with the number of hours worked. Why then does anyone work? Because wages soothe this pain. Why does anyone stop working? Because at some point money fails to compensate the laborer adequately for his fatigue. Marshall grafted the marginal idea upon the older Ricardian notion of labor as a simple, homogeneous pain. There are degrees of pain, and they demand degrees of compensation. Thus, time-and-a-half rates offered for overtime work may roughly compensate the worker for his additional (marginal) fatigue.

But capital is also needed to produce goods. Marshall explained its use by building on the views of the English Classical economist, Nassau Senior, who had argued

This is the eighteenth article of a series in CHALLENGE dealing with the economic development of man.

that the man who abstains from spending his entire income for his personal gratification suffers "pain" akin to the fatigue of labor. This pain deserves, indeed demands, a compensatory return: interest. Somewhat uneasy about the term "abstinence" because it appeared to imply a virtue which rich savers scarcely needed to display, Marshall substituted the ethically neutral word "waiting." The "waiter" postpones present spending in return for interest payments. Just as higher wages must be paid to make bearable extra fatigue, higher rates of interest compensate for the marginal discomfort of additional saving.

Factors of production

The second half of the theory is *demand*. Marshall's discussion parallels his analysis of supply. Once more the key is the marginal principle. As we acquire more of anything—including money—the satisfaction it yields us (its marginal utility) diminishes. Correspondingly, the price that will be paid for additional amounts diminishes. The rational consumer is engaged in a never-ending balancing act. Perpetually he compares the additional satisfaction yielded by expenditure on one item with the results of an alternative purchase. In equilibrium, the consumer can reflect smugly that no reallocation of his income

will increase his satisfaction. The prices of his purchases will be proportional to their utilities: a pound of steak at one dollar a pound will give ten times as much satisfaction as an ice-cream cone at ten cents, and it in turn will yield ten times as much utility as a piece of bubble gum at one cent. If he is not in equilibrium, the consumer will rearrange his future purchases in such a way as to maximize his total satisfaction or utility, spending a little less here, a little more there.

Diminishing utility

The consumer's procedure strikingly parallels the producer's. True, the latter seeks profit, not utility. But to achieve profit he allocates his funds among the factors of production much as the thrifty housewife allocates her food budget among the hundreds of items which clamor for her attention in a supermarket. If he spends 100 dollars on a man, 1,000 dollars on a machine, and 200 dollars on better materials, he does so because he anticipates (and he may be wrong) that the machine will add ten times as much to total product as will the man, and the materials twice as much as the man.

What really determines price? Is it utility or is it cost of production (wages plus interest)? We have Marshall's own answer:

"We might as reasonably dispute whether it is the upper or the under blade of a pair of scissors that cuts a piece of paper, as whether value is governed by utility or cost of production." Indeed, price is determined by supply and demand, but that trite observation takes on new meaning at Marshall's hands.

Fiction simplifies reality

His next question was how do the forces which influence supply and demand, and thus prices, operate over a span of time? In answering this most intricate question at the very center of the capitalistic process, Marshall recognized that economic life is much too complex to analyze as a whole. We need a useful fiction to simplify reality. His fiction asked readers to pretend that we could concentrate our attention upon one industry and, within that industry, quite frequently upon one business unit, the representative firm.

What happens in such an industry and to such a firm as time passes? Marshall here introduces a second fiction, the existence of three different time periods. Although we can identify these periods only theoretically—time, after all, is indivisible—they do help us to understand the events of the market place. The shortest of these periods is the market

period. Here supplies are fixed and demand determines price. Take as an illustration fresh strawberries shipped into a city market early in the morning. For that day, supply is fixed. Therefore, the prices of the berries throughout the day will reflect solely the intensity of demand for strawberries; for sellers cannot allow so perishable an item to await next day's possibly stronger market. Nor, if demand is strong instead of weak, can sellers increase in the same day their supplies of berries. If a person stationed himself outside a fruit store he would observe that as the day wore on and the closing hour approached, the storekeeper steadily lowered the price of his berries.

Fixed productive facilities

The next period is the short-run normal, a period sufficiently long to permit firms to vary supplies of given products manufactured in their existing plants with existing machinery. Now, not supply but productive facilities are fixed. Now also, the forces which influence supply are much more powerful than in the market period. If consumer demand rises, then the producer will expand output from existing facilities and will expand until his last unit of output costs him as much as its sales price. Suppose consumer demand falls. Then the

producer will slow down production again to the point where the last unit produced matches the sales price.

Allow still more time to elapse and we enter Marshall's last period, the long-run normal. We assume now that firms can vary not only output from existing facilities but those facilities themselves. They can expand by adding new machines and building plant extensions. They can contract by failing to replace worn-out equipment. Moreover, old firms can drop out completely and new firms can enter. What influences such decisions? In an industry where demand is so low that total costs are not covered, firms will drop out and those that remain will earn normal profits. If demand is very high, they will expand and new firms will enter the industry. In the long run, therefore, it is supply which has the larger influence upon price.

Marshall's view of capitalism

Throughout, Marshall was very cheerful about the capitalistic process. He saw it as increasing the

standard of living of ordinary people, deepening the preceptions of employers and raising the moral tone of everyday existence, as both capitalists and workers became more honorable in their dealings among themselves and with each other.

Much of Marshall has passed into the everyday equipment of the student of economics. Veterans of economics courses may remember with joy or exasperation their encounters with the diagrams which dot the modern textbook. For better or for worse, these go back to Marshall. The student who mumbles in his sleep over cost curves, demand curves and supply curves is still a student of Marshall.

Although it exaggerates Marshall's influence to claim that all of modern economics is his—where, after all, are business cycle analysis, national income and fiscal policy?—it is fair to say that price economics continues to bear his brand. Later giants, like John Maynard Keynes, built with the economic tools of Alfred Marshall. ■



NEXT MONTH: What two world conflicts have taught economists about the role that war plays in a capitalist society

Everyday sayings which were better left unsaid

ECONOMIC CLICHÉS: COMMONPLACE CONFUSION

by Haig Babian and Martin Kessler

PAT WORDS AND PHRASES, as we have all learned at some time or another, can hide an awful lot of sloppy thinking. This seems to be particularly true in the field of economics, where meaningless jargon often camouflages good ideas and high-sounding platitudes dignify nonsensical notions.

The interesting thing about economic clichés is that most of them started out as an attempt to express an idea in a fresh and original way. The man who first observed that the "economy is moving sideways" or that the government should "absorb some of that excess purchasing power" probably had a clear idea of the particular half-truth he wanted to get across. Trouble developed, however, when the expressions seemed so apt that soon every speech writer, publicist and journalist started repeating them—

but out of context of the whole truth of which they were only a part. And sure enough, in the process of constant repetition, the phrases lost all precise meaning and became clichés.

Our hunch is that "the economy is moving sideways" was coined in a moment of utter frustration by someone overwhelmed by the contradictory ups and downs of key economic indicators. Because it was assumed that the economy has to go somewhere, it was decided that if the economy does not seem to be going up or down, it must be going sideways.

Undoubtedly, this is an original way of saying nothing with a good deal of conviction. The economy, after all, does not literally move in any direction except on a graph. It might expand, remain static, become inflated, and, in some unusual cir-

cumstances, contract. But what it might be doing when it is moving sideways escapes us entirely—although many people seem quite happy to accept this description of our “mobile” (does this mean “dynamic”?) economy.

“Excess purchasing power”

Just as meaningless is the oft-repeated idea of a government sopping up “excess purchasing power.” As far as we know, no human being with a normal quota of insatiable needs and desires ever considers any part of his purchasing power as excessive. Perhaps what the phrase intends to convey is that the amount of money in circulation is excessive in relation to the amount of goods and services available. If that is so, perhaps we would all be better off if we turned our attention to an analysis of why such an excessive amount of money got into circulation, or why the production of goods and services is lagging. In any case, the government certainly cannot “absorb excess purchasing power.” For, what government manages to absorb must either be spent anyway, or released at some future date. It is obviously nonsense to apply a pat phrase to describe a myriad series of economic forces and consequences.

Even more serious are those verbalisms which seek to make

unwarranted comparisons between economic processes and common everyday experiences. Such statements as “a nation, like a family, cannot live beyond its means,” or, “in economics what goes up must come down,” sound very practical. Unfortunately, such analogies are misleading. It is true that a family cannot live beyond its means for long. A nation, however, is not really like a family, and most industrialized countries of the world have been living quite comfortably for a long time with an ever-expanding national debt. The United States, for good or for ill, is now in the red to the extent of about 275 billion dollars. A national government can, through its control of the money supply and of the credit structure, largely set the terms on which its debt shall be incurred and consequently repaid. By no stretch of the imagination can a family exercise such fiscal flexibility.

This does not mean, as another cliché would have it, that we do not have to worry about the national debt because “we only owe it to ourselves.” For while it is true that as a nation we *own* the debt as well as *owe* it (a liability or debt cannot exist without a corresponding asset or saving), it is not true that the people who own the debt are the same people who owe it. To say

that we owe the debt to ourselves is incorrect if we talk about "we" as individuals, and irrelevant if we talk of "we" as a nation. Moreover, to those who have to pay for the servicing of the national debt, the taxpayers of the future, an expansion of the debt is a very serious matter indeed.

Misconceptions of economic law

How often have we listened to the professional pessimist who tells us that stocks are in for a general and drastic decline because "what goes up must come down." Because we observe the law of gravity at work in the physical world, we assume that such an inexorable law must hold true in the world of finance as well. Actually, economic indicators are not like a bouncing ball. Production, income and prices have been rising in the Western world for the last five hundred years; yet, on the whole, this has represented a general improvement in world economic conditions.

In fact, our misconceptions of what constitutes economic law have provided a fine breeding place for some of the worst clichés to be encountered in the field of economics. We often read that "the time has come to let the law of supply and demand take over." Actually, there is no general law of supply and demand

which can "take over." Under conditions of monopoly, the law of supply and demand will act in one way. Under conditions of perfect competition, it will act in another. The law of supply and demand is not axiomatic, but merely descriptive of a set of economic relationships. To say that such a law should take over doesn't mean a thing.

Finally, there are those pat expressions of ideas which we accept because they tell us what we would like to hear. Because we believe in the superior moral and political virtues of a free and democratic society, we are tempted to conclude that this kind of society is necessarily more successful in the production of material goods than one which is regimented and authoritarian. In other words, we use social and political measurements, essentially moral values, in our assessment of economic capability. Such thinking overlooks history's gallery of great material wealth. It underestimates the tremendous progress the Soviet Union has made in technology and in the capacity to produce the wherewithal to wage war. To be sure, none of us can afford to be blind to the social and political atrocities committed against the individual behind the Iron Curtain in the name of economic efficiency and productivity. By the tyrannies which have accumulated

same token, we cannot be blind to the fact that economic strength can be gained in an environment of political and social captivity.

Planning is necessary

We allow our ideological predilections to color our discussions of domestic economic problems as well. Take the word "planning" as an example. To hear some business spokesmen flail that word, one would think that management must be a purely hit-and-miss affair involving no long-range policy or planning whatever. This, of course, is nonsense. Planning is necessary, not only for the businessman, but for every one of us and for the government as well. If government is to spend our tax money wisely, it must plan. There is nothing wrong with government planning as such. What critics of planning object to is not that the government is operating on an economic plan, but that there are areas of economic endeavor which, in a society with our set of social and political values, must be kept outside the ken of government planning. But by no means should the word "planning" itself be identified with the total procedures of socialism.

Labor organizations have their own symbol words which make difficult a rational discussion of some economic issues. The word "profit," for example, in the labor

ideology often conjures up images of bloated capitalists eating the fruits of others' labors. Of course, most of us would agree that no business can stay alive and provide jobs and income if it does not make a profit. Most of us would agree, in fact, that our continued prosperity depends in part upon the incentives offered to capital to invest in economic growth. Thus, the abuse heaped upon the word "profit" is wholly unmerited and at best should be confined to that area of collective bargaining which periodically debates the issue of how profits should be divided.

Discussion not exhaustive

This brief discussion by no means exhausts the list of clichés and fallacies in economic reasoning. There are others so deeply imbedded in our economic folklore that they no longer are recognized for the specious kind of reasoning they really represent. Of course, as editors of this economics publication we are conscious of the fact that it is much easier to detect a cliché or error perpetrated by the other fellow than one by ourselves. But the crime being criminal no matter who commits it, we have dared — if we may reverse an old cliché — to throw a few stones, even though we too might be living in a glass house of a sort. ■

The Nation's IOU:

MENTAL HEALTH

by Mike Gorman

It costs millions to finance a research program leading to more effective treatment—and cure—of the growing number of mentally ill Americans

EVERY THREE MINUTES the gates of a mental hospital open somewhere in the country to admit a victim of mental illness. Because 97 per cent of these patients are in tax-supported hospitals, it costs the American people more than one billion dollars a year to care for them and to pay pensions to veterans with psychiatric disorders.

During World War II, rejections before induction, or discharges during service, for mental illness deprived the armed forces of 2,564,184 men. Forty per cent of our medical disability losses were due to mental disorders—enough men to make up 177 infantry divisions and more than the total number of men the Army sent into the Pacific Theater during the entire war.

The rapidly rising cost of the veterans programs alone gives some idea of the economics of the mental health problem. In 1945, Congress appropriated 44 million dollars for the care of mental patients in Veterans Administration hospitals. By 1955, appropriations had soared by about 500 per cent, totaling an amount in excess of 200 million dollars. Over and above this, Congress is now appropriating more than 400 million dollars annually in compensation costs for service-connected psychiatric disabilities. A Hoover Commission report recently estimated that our tax bill for mentally ill veterans would soon reach one billion dollars a year.

Our civilian losses have been equally staggering. In terms of industrial productivity, at least one

million man-years are lost each year because of mental illness. This is an economic loss of several billion dollars per year in wages and several hundred million dollars per year in lost federal income taxes.

States are dipping into borrowed reserves to construct enough facilities to care for the rising number of patients. In 1954 the voters of five states alone approved bond issues totaling 750 million dollars. And New York State, which has the largest mental hospital system in the country, has, in ten years, issued bonds for 550 million dollars to construct new hospitals.

But we are not so generous in our financing of psychiatric research. During the fiscal year which began July 1, 1956, we will spend about thirty million dollars for psychiatric research, about half of which will be used by the federal government in direct research at the National Institutes of Health and in grants to psychiatric centers in all parts of the country. An additional ten million dollars will be spent by state governments, and the remainder will come from private sources such as the Ford Foundation which granted 6,826,850 dollars to be spent over a period of five years

Mike Gorman, Executive Director of the National Mental Health Committee, is author of *Every Other Bed*.

in support of long-term research projects.

How does this support of psychiatric research stack up against research expenditures in other areas? It is estimated that this country spends about five billion dollars a year for research of all types. Of this total amount, the federal government picks up the tab for about 50 per cent. However, a breakdown of the federal research budget shows that more than 85 per cent is allocated to military research. Psychiatric research gets considerably less than one per cent!

Intensive research required

As a nation, what should we be spending on psychiatric research? The 1954 National Governors' Conference on Mental Health recommended that 10 per cent of all public mental health budgets be devoted to research and allied training programs. Roughly, this would mean an annual psychiatric research expenditure of about 100 million dollars a year. Apart from any humanitarian considerations, the astronomic rise in mental illness, and its costs, is argument enough for an intensive research program required to reverse this trend.

But a better argument can be found in the impressive results of past psychiatric research and in the dramatic possibilities for pro-

gress in areas just beginning to be explored.

Paresis, a generalized paralysis with accompanying psychosis, once filled thousands of beds in our public mental hospitals. With the introduction of penicillin in the war against syphilis, there occurred a dramatic drop in the number of hospitalized paretics. In the New York State mental hospital system alone, there has been a better than 50 per cent reduction in first admissions for paresis in the five years since the initial widespread use of penicillin in 1946.

Pellagra psychosis, a once mystifying disease which used to fill entire wards of overcrowded hospitals in the South with its victims, is now a medical rarity due to the research discovery that it can be cleared up by the administration of the vitamin niacin.

Epilepsy, once regarded as totally incurable, is yielding increasingly to surgical procedures

and management by new drugs. So remarkable have been the research advances against epilepsy during the past few years that a number of states have been able to close institutions formerly devoted to the care of epileptics. Today 80 per cent of epileptics can lead normal lives, and thousands of victims who would formerly have spent a lifetime in a mental institution are now working.

During the past seven years, much of the experimentation with drugs and chemical compounds has been directed toward finding a physiological basis in mental illness. At the 1956 convention of the American Psychiatric Association, Dr. Robert G. Heath, chairman of the Department of Psychiatry at Tulane University, outlined experiments in which normal human beings were made schizophrenic through the injection of a protein substance obtained from the blood of schizophrenic patients. This report capped a decade of

Self-Confidence

SOME OF MY sophisticated psychiatric friends recoil at tables and charts pointing up the financial malnutrition of psychiatric research or the shortage of psychiatric personnel. They accuse us of a lack of appreciation of the subtleties of the research mind. I commend to them a story told about the late Dr. Joseph Mountin, one of the great architects of our modern U.S. Public Health Service. After listening to one all-day conference devoted to a follicle-splitting dissection of every wearisome aspect of a public health problem, Dr. Mountin barked, "Look, it all boils down to this—give us the money and we'll do the job."—from Mike Gorman's book, *Every Other Bed*

work by Dr. Heath to determine whether the schizophrenic differed chemically in significant ways from the normal human being.

At the same convention, Dr. Linus Pauling, Nobel prizewinning chemist, expressed his conviction that molecular abnormalities, such as the one described by Dr. Heath, were at the root of all mental illnesses. Dr. Pauling cited several forms of mental deficiency in which manufacture of abnormal enzymes produced the disease. In emphasizing his point of view that schizophrenia is a combination hereditary-constitutional rather than a purely psychological disease, he took his place at the side of Dr. Franz Kallman, research scientist at the New York Psychiatric Institute, whose famous twin studies over a period of thirty years document the thesis that schizophrenia occurs most frequently in family groups with hereditary-constitutional weaknesses.

Work with lysergic acid

Particularly important in this respect has been the work with lysergic acid, which has an astounding ability to produce schizophrenic symptoms when injected in normal persons. In 1954 Dr. Max Rinkel of the Boston Psychopathic Hospital summed up his studies of the effects of lysergic acid in this manner:

"Our intensive studies of the LSD effect . . . have resulted in reflections on a new chemical theory of mental illness. According to this theory, one of the important factors in the causation of mental illness seems to be a chemical which originates in the body itself. . . . Our studies have placed mental illness again in the realm of diseases of disturbed metabolism. More studies will help further to pinpoint the noxious agent, until its final discovery will lead to the development of the successful pharmacological prevention and treatment of mankind's greatest plague, insanity."

Receiving the widest publicity in the past several years has been the introduction of the tranquilizing drugs—chlorpromazine, reserpine, meprobamate and their many chemical relatives. These amazing chemicals, discovered accidentally and applied originally to nonpsychiatric illnesses, have been used with spectacular results in the treatment of a large number of patients. But although there is wide enthusiasm for the new drugs, much more knowledge has to be acquired about them before their real value is known. Besides more information on the metabolic action of the drugs, studies will have to be continued into the extent and nature of any side-effects they may have on the patient.

Amid the welter of scientific

studies and papers, a few hardy souls are attempting the giant steps needed to bring order out of chaos. At the Galesburg State Research Hospital in Illinois, Dr. Harold Himwich and his colleagues are engaged in a ten-year project to develop a chemical map of the brain. For the past few years Dr. Himwich has been studying the aging brain. Out of these studies has come the arresting speculation, corroborated by a number of recent studies at the National Institutes of Health in Bethesda, Maryland, that the decline in brain functioning is due to the death of individual cells in the brain rather than to the previously held proposition that it is caused by decreased blood flow to the brain, reduced oxygen consumption by the brain, etc. The cells of the brain, which are with us from birth and are not replaced in the manner in which other body cells are, appear to drop out of use in the brain with increasing age.

New frontiers have been opened up by these and many other experiments, and the job of reaching into every corner of this new

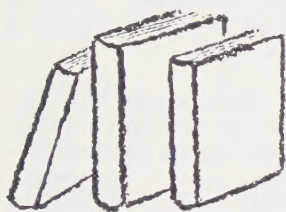
research area will involve generations of scientific investigators. There is every reason to believe that an increased financial investment in psychiatric research will produce enormous dividends for this nation, now and in the future. There is first an imperative need for a bold master plan which will outline the tremendous research tasks ahead of us. Up to now, psychiatric research has been a hit-or-miss proposition. To eliminate the chances of failure, there is an increasing demand for long-term financial support for psychiatric research. Equally important is the development of a blueprint to recruit and train thousands of additional research workers. Psychiatric research is continually losing many of its most promising workers to industrial research, which offers higher salaries and more stable employment.

Those of us who believe in the importance of psychiatric research have as our most important goal in the next decade the task of convincing the American people that this problem deserves both major thought and financial support. ■



Answers to True-False Quiz

- | | |
|----------------------------------|-----------------------------------|
| (1) True (<i>see page 52</i>) | (7) True (<i>see page 36</i>) |
| (2) False (<i>see page 60</i>) | (8) False (<i>see page 31</i>) |
| (3) False (<i>see page 27</i>) | (9) False (<i>see page 68</i>) |
| (4) True (<i>see page 72</i>) | (10) True (<i>see page 45</i>) |
| (5) False (<i>see page 49</i>) | (11) False (<i>see page 18</i>) |
| (6) False (<i>see page 13</i>) | (12) True (<i>see page 8</i>) |



READING REPORT

The Quest for Wealth. Robert L. Heilbroner. 278 pp. New York: Simon and Schuster. \$5.00.

•In this provocative and stimulating, though sometimes arbitrary, book, Mr. Heilbroner sketchily traces the origin and nature of "the universal drive for acquisition," its manifestation throughout history and its peculiar role in today's capitalist society. Perhaps the most interesting discussions in the book concern Man's ambivalent feelings toward the accumulation of money and the effect of the acquisitive drive on the acquirers.

* * *

Corporation Giving in a Free Society. Richard Eels. 210 pp. New York: Harper & Brothers. \$3.50.

•Business corporations contribute nearly half a billion dollars to philanthropic causes. The author, who is manager of public relations research for General Electric, uses this fact as a point of departure in a discussion of the role of corporation philanthropy in American society.

Arguing that it is to the business community's ultimate good that corporations seek to strengthen the private sectors (education, creative arts, libraries and museums, political studies), he has come up with

some valuable guiding principles for the corporate executive of today to whom the "increasing clamor for corporation support" has become "a major fact of life."

* * *

Business Practices, Trade Position and Competition. Oswald Knauth. 177 pp. New York: Columbia University Press. \$3.00.

•Stressing what he calls the inadequacy of classical economic theory to explain the actions and methods of an economy largely operated by publicly owned corporations, the author suggests a fresh start in theoretical analysis. His views are based on facts and practices that have resulted from "many decisions made by many men in solving the problems immediately confronting them." His own discussion of trade position (competitive advantage) in relation to patents, labor unions, distribution and financing makes thought-provoking reading.

* * *

The Industrial Structure of American Cities. Gunnar Alexandersson. 134 pp. Lincoln: The University of Nebraska Press. \$6.50.

•"Geographers often focus attention on the surface of land in the cultural landscape, not on man, the

active agent," Dr. Alexandersson explains. His unusual study offers a geographic analysis of the work of the "active agents," and their part in the development of industries and 864 industrial centers throughout the United States. Supplemented by dozens of maps, this book would be helpful to planners and committees seeking to attract new industries to their cities.

* * *

The American Business Creed. Francis X. Sutton, Seymour E. Harris, Carl Kaysen, James Tobin. 414 pp. Cambridge: Harvard University Press. \$6.75.

•This is an objective—and on the whole fair—examination of the economic opinions of businessmen as expressed in advertisements, speeches and statements by such organizations as the National Association of Manufacturers and the Committee for Economic Development. Lurid examples of oversimplification, one-sided argument and use of emotionally loaded symbols are given. But as the authors point out, if the economic ideologies of other interest groups (e. g., labor) were subjected to the same treatment, they would sound equally biased.

* * *

How To Use Tools. Alfred P. Morgan. 144 pp. New York: Arco Publishing Co., Inc. \$2.00.

•This is a handy guide to the purposes and limitations of hand tools, and the proper way to hold and use them. Aware that most handymen are unconcerned with the way a tool is made, Mr. Morgan explains the reasoning behind the design of hand tools as a way of illustrating how they can best be used. Includes 120 photographs and 108 line drawings.

Tomorrow's Birthright. Barrow Lyons. 424 pp. New York: Funk & Wagnalls Co. \$5.00.

•This is a controversial and dramatic appeal for judicious and responsible use of our natural resources.

"This wealth will literally turn to dust," declares Mr. Lyons, "if the long-range view essential to effective conservation continues to be submerged." Up to now, Mr. Lyons adds, views have been guided by economic shortsightedness and political irresponsibility. The result has been almost rapacious exploitation of our forests, our farm land, our metal, mineral and oil reserves. Planning is an absolute necessity to conserve and develop our resources; and close cooperation between private industry and government is required to make the planning possible, he concludes.

* * *

An International Economy. Gunnar Myrdal. 381 pp. New York: Harper & Brothers. \$6.50.

•A leading international economist (he is Executive Secretary of the United Nations Economic Commission for Europe and was at one time Sweden's Minister of Commerce), Dr. Myrdal draws upon his extensive experience to paint a rather gloomy picture of what has been done to increase the volume of international trade. The author contends that the nationalistic emphasis of European welfare regimes has been in large part responsible for the disintegration of the "international economy." The book is lucidly written and while many readers will not completely agree with Dr. Myrdal, what he has to say is extremely important. ■



Challenge Quiz

HOW WELL can you do with this true-false quiz? Test your ability to increase your knowledge through reading. Ten correct answers is Excellent; 9, Good; 8, Average. If you do the quiz *before* reading the articles, 6 correct answers is Good. Answers on page 76.

- | | |
|---|--|
| <p>(1) The life expectancy of a fifty-year-old person is only about three years more than it was in 1900.
True ☐ False ☐</p> <p>(2) Japan's basic economic difficulties could be solved if her natural resources and soil were sufficiently exploited.
True ☐ False ☐</p> <p>(3) Brand-name products have always had stable, uniform retail prices.
True ☐ False ☐</p> <p>(4) More than 85 per cent of the federal budget for research is allocated to military research.
True ☐ False ☐</p> <p>(5) The cooperation between the railroad and trucking industries illustrates how competing interests can work together successfully.
True ☐ False ☐</p> <p>(6) Automation will increase routine and repetitive jobs that require little thinking or imagination.
True ☐ False ☐</p> | <p>(7) Soviet managers display as much initiative and ingenuity as their American counterparts.
True ☐ False ☐</p> <p>(8) Our productivity increased at a greater average annual rate from 1900 to 1920 than it has from 1920 to the present.
True ☐ False ☐</p> <p>(9) A nation, like a family, cannot live beyond its means.
True ☐ False ☐</p> <p>(10) The number of newspapers printed daily in the U. S. can provide one copy for each three persons.
True ☐ False ☐</p> <p>(11) Expensive power tools are purchased by home workshop enthusiasts to provide a better outlet for creativity.
True ☐ False ☐</p> <p>(12) Income taxes provide two-thirds of the federal government's revenue.
True ☐ False ☐</p> |
|---|--|



Dept. of Better Mousetraps

From the World of Industry: a clock that will "never" wear out. It derives energy to move from the daily change in atmospheric temperatures—a variation of 2 degrees will wind 48 hours of power into the mainspring . . . a wire service between a major railroad and a subscriber which permits the sale and purchase of tickets by wire . . . to allow anyone to transmit code messages, a wireless device that has a standard typewriter keyboard which converts the impulse into code . . . a screw-type milk bottle cap made of aluminum foil that effectively reseals an opened bottle . . . and a ready-to-eat meal that can be heated without a stove or fire. Pull a tab on the box and a chemical heats the food.

* * *

Around the House: for small bathrooms, a scale that can be hung on the wall . . . a fuse that can blow out six times before it must be replaced . . . for dormitory dwellers or apartment-sharing career girls, personalized stocking driers with a first name or initial in gold to tell whose hose is whose . . . and a plastic liner to protect costly, decorative shower curtains from getting wet.

* * *

Personal Business: a toothpaste tube with an extra-large cap that can't roll down the drain . . . for a grandmother who can't

keep count of all her grandchildren, a bracelet hung with baby shoes engraved with the first name and birthdate of each child . . . a long, hooked device to help you reach the zipper on the backs of dresses and bathing suits . . . a bedside light that goes on automatically when it is picked up . . . and, for your next cocktail party, a bright red felt political party apron, with an elephant or donkey.

* * *

Golfer's Gimmicks: a golf ball washer, attached to your caddy cart, cleans 4 golf balls as you wheel the cart . . . a plastic clip for your golf cart to keep balls, tees and a pencil within easy reach . . . for greater resiliency, a new golf ball with a silicone liquid center and a 25 per cent thinner cover.

* * *

Junior Department: a bubble gum necklace. Colored beads can be plucked from the necklace and popped into the mouth . . . to make arithmetic tastier, pencils with lollipops at the end . . . a little girl's ruffled umbrella that plays a tune as the top turns around . . . a flavored straw that puts a chocolate taste into milk . . . nonsqueak blackboards . . . personal name-license plates available in all state color combinations for bikes, scooters, wagons or bedroom doors . . . and a pencil sharpener in the shape of a globe. ■

